AMERICAN RAILROADS:

GOVERNMENT CONTROL AND RECONSTRUCTION POLICIES

ames BY

WILLIAM J. CUNNINGHAM, A. M.
JAMES J. HILL PROFESSOR OF TRANSPORTATION
GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
HARVARD UNIVERSITY

A. W. SHAW COMPANY
CHICAGO NEW YORK
LONDON

PRINTED IN THE UNITED STATES OF AMERICA

CONTENTS

APPENDIX

PREFACE

THIS volume, while intended as a review of railroad events during the years 1917 to 1922, deals primarily with the period of federal control, January 1, 1918, to March 1, 1920. During the greater part of that time the author, while on leave of absence from Harvard University, was officially connected with the United States Railroad Administration and served on the staff of the Director General of Railroads, first as manager of the operating statistics section and later as assistant director of operation. Throughout the book the policies and results of federal control and the problems of the reconstruction period are discussed from the viewpoint of operating administration.

The chapters which relate to the organization and achievements of the United States Railroad Administration are based in part upon two articles published in the Quarterly Journal of Economics of February and November, 1921. The concluding chapters, which deal with railroad affairs in 1920 and 1921, contain portions of articles written in 1921 for the weekly financial edition of the New York Evening Post. Included as an appendix is an article which appeared in the November, 1919, number of the Annals of the American Academy of Political and Social Science.

For kind permission to use the material in this form, the author is indebted to Professor Frank W. Taussig, editor, Quarterly Journal of Economics; Mr. Edwin F. Gay, president, New York Evening Post; and Mr. Clyde L. King, editor, The Annals of the American Academy of Political and Social Science.

W. J. C.

Cambridge, Mass., July 31, 1922.

CHAPTER I

INTRODUCTION

WITHIN the next six years the United States will probably celebrate with appropriate ceremony the centennial of the beginning of steam railroads in this country. It was on July 4, 1828, that Charles Carroll, the last surviving signer of the Declaration of Independence, laid the first rail of the Baltimore & Ohio Railroad. "One man's life formed the connecting link between the political revolution of the last century and the industrial revolution of the present."*

American railroads, then, have existed for three generations. Broadly speaking it may be said that these three generations coincide with three fairly well-defined periods in the development of public policy toward railroads. From 1830 to the Civil War period, which we will designate as the first generation, was an era of unrestrained railroad development. The general public was not only willing, but was eager to see expansion in the growing network of railroad lines. "Indeed, the community manifested so marked an eagerness to secure railroad transportation that the states' attitude toward the carriers was one of liberality and encouragement."** The carriers

**Railroad Transportation,* A. T. Hadley, 1885.

***The American Railroad Problem,* I. L. Sharfman, 1921.

were almost entirely free from governmental interference. Extensive land grants and financial aid were freely given, and railroad securities found a ready market on favorable terms.

The next period, from the end of the Civil War until 1887, may be designated as the second generation. It ushered in the era of railroad regulation by individual states. Speculative building, with many cases of financial maladministration, unfair discrimination in rates and service, and ruinous competition, caused a reversal of public opinion. Open antagonism took the place of friendly cooperation. There was intense resentment against abuse of power exercised by railroad executives, and bitter criticism of rates which were regarded as excessively high. This spirit of antagonism was greatest in the central agricultural states and was crystallized early in the 70's in the drastic legislation known as the Granger Laws.

These laws, however, were ineffectual as permanent remedies. In most cases they were overturned on appeal to the Supreme Court of the United States. Yet the Granger Movement, while not solving the problems of discrimination in rates and service or of financial manipulation, acted as a check upon the abuse of power, and served to make clear the need of more effective public regulation on a national scale. It served also as a brake upon speculative railroad building.

The following period, or the third generation, embracing the years 1887 to 1917, may be desig-

nated as the first stage of federal railroad regulation. It began with the passage of the original (1887) Act to Regulate Commerce. This Act created the Interstate Commerce Commission and clothed it with powers intended, among other things, to insure just and reasonable rates, to prevent unfair discrimination in rates and service, and to check financial mismanagement. As it became apparent that the Commission, under the original law, could not effectively bring about all that was sought, successive amendments were enacted, each strengthening the Commission's authority.

With the passage of the amendments of 1906 and 1910, the powers of the Commission over rates and service were fairly complete. It could also exercise substantial control over accounting and financial organization.

Up to the middle of the decade 1900 to 1910, the steady growth in traffic and the economies from improved operating methods, enabled the railroads to absorb the burden of higher wages and other costs, and to move the traffic at lower rates per ton-mile. The net income was sufficient to pay a reasonable rate of return on securities and to attract new capital when needed. New lines, additional trackage and enlarged or improved facilities could be provided where justified by traffic demands. The long-time policy of the typical conservatively managed road was to "plough in" a part of its net income. The aim was to keep the capacity of the railroad properties well ahead of traffic demands, and to insure an ample factor of safety so that the larger business of next year

might be handled expeditiously and economically. The statistics of ton-miles and passenger-miles over a long series of years indicate that the normal growth in freight traffic is an increase of 100% every 12 or 13 years, and that the passengers carried one mile double every 15 or 16 years. In order that the normal growth might be taken care of satisfactorily it was necessary to construct new lines, to increase main-line trackage, to increase the number and capacity of sidings, to revise and enlarge terminals, enginehouses and shops, and to purchase new locomotives and cars of greater capacity and better design. These heavier units of rolling stock and motive power required bridge renewals and the enlargement of clearances in tunnels, cuts and overhead structures. In the interest of train service economies it was desirable to reduce grades and to eliminate curvature; and in many cases the capacity of the roads was increased and their operating costs lowered by constructing cut-offs or otherwise shortening the line haul.

Although the greater part of these improvements was financed by the sale of new securities, it was believed to be sound policy to take a part of the capital out of income, so as to keep down the capital obligations. Such a policy was possible on the typical road under the net income up to and during the greater part of the decade which ended with 1909. But with the enactment of the amendments of 1906 and 1910, which gave the Interstate Commerce Commission the power to fix maximum rates and to suspend rates initiated by the carriers, the inflexibility of the rate structure,

and the steadily advancing costs in operation, caused net income to shrink. As the opportunities for large-scale economies in the progressive development in the art of transportation grew less, it became increasingly difficult to absorb the advances in wage rates and the increases in material costs.

About that time (1910) the railroads began their efforts to convince the Interstate Commerce Commission that higher rates were justified by changed economic conditions, but they were unsuccessful. The net income continued to drop and in 1914, when the World War began, the railroads were in serious financial difficulties. The loss in earning power had affected their credit. Railroad securities, particularly new issues of stock, were no longer marketable on favorable terms, and issues of new or refunding bonds carried higher interest rates. Net income was not sufficient to justify appropriations for betterments. Many of the strong roads reduced their dividend rate and many of the weaker roads suspended all dividend payments. Another group of the weak lines began to default in the payment of interest on funded debt. New construction practically ceased. Improvements were curtailed. Orders for new locomotives and cars were far below the normal rate of renewals.

Such was the situation when the World War began in 1914. In that and in the following year many weak roads were forced to the wall. The total railroad mileage in the hands of receivers

in 1915 comprised one-sixth of the total in the United States.

The financial catastrophe which threatened to overcome the strong as well as the weak roads was averted by the large volume of traffic caused by orders from the Allies for munitions and other war supplies. These orders brought feverish industrial activity and a large movement in raw materials as well as in finished products. As a result, railroad earnings, both gross and net, in 1916 exceeded all previous records.

For the moment the ultimate financial needs were pushed into the background. The heavily increased tonnage brought additional revenues which absorbed the further advances in wages and materials, but under the stress of the overload, and in view of high construction costs, little could be done toward providing the additional facilities and equipment which normally would have been provided in the years 1910 to 1915.

And so it came to pass that when this country entered the war in April, 1917, our transportation system, already taxed nearly to its traffic carrying limit, had to assume heavier burdens. How the problem was met at the time is described in Chapter II. Suffice it to say here that in 1917, under the Railroads' War Board form of voluntary unification, the initial load was satisfactorily carried. Late in 1917, however, difficulties were encountered which justified complete unification under federal control. That form of control continued until March 1, 1920. Chapters II to XX

are devoted to a recital of the organization, methods and results under governmental operation.

During 1919, while Congress was deliberating upon the several plans for the post-war solution of the railroad problem, the demand for a resumption of private management was overwhelming. Congress summarily dismissed all plans looking toward Government operation or ownership in any form. The national policy finally adopted, when the railroads were returned to their owners for private operation, is expressed in the Transportation Act of 1920. The Act, which may be said to mark a new era in the relations between the Government and the railroads, is discussed in Chapter XXI.

The remaining chapters are devoted to the outstanding events in 1920 and 1921, the two years immediately following the period of federal control, and to the railroad situation as it existed in July, 1922.

CHAPTER II

THE RAILROAD SITUATION DURING THE DECADE 1906-1916

IN order to understand the railroad situation during and directly after America's participation in the World War, it is necessary to review the events which preceded the critical period from April, 1917, (when the United States declared war against Germany), to March, 1920, (when the railroads were restored to their owners after 26 months of operation by the Federal Government). That period of three years is marked by as many fundamental changes in railroad administration. First came the voluntary unification of all railroads and the attempt on the part of the individual carriers to act together in the war emergency as one system under the direction of a Railroads' War Board invested by the carriers with power to suspend and disregard individual and competitive interests. This voluntary unification lasted from April 11, 1917, to December 28, 1917, or almost 9 months. The second change was the compulsory unification of all railroads under federal control, lasting 26 months (until March 1, 1920). The third came with the passage of the Transportation Act of 1920, which restored the railroads to private management and fundamentally modified the policy of public regulation.

Critics of private railroad management state that the railroads "broke down" in 1917, just at the time when transportation efficiency was most vitally necessary. If it is true that the railroads then failed in the emergency, we are as much interested now in the causes of the failure as in the failure itself. To get at the causes it is necessary to trace the events of the decade preceding the period of the war.

Until a few years prior to our entrance into the war, it had been the traditional policy of the typical American railroad to keep its equipment and facilities well ahead of the demands of growing traffic. The cost of additional or improved equipment, and of additional or enlarged terminals, trackage, and other physical facilities, was met either from current income or from the sale of new securities. As a result of this policy, the typical railroad was always equipped to handle its growing business economically. There was an ample factor of safety, so that the ever-increasing volume of tonnage and passengers could be handled expeditiously and without congestion.

The ability to continue this policy depended upon net earnings sufficient to insure ample credit. So long as net earnings justified appropriations for improvements, or were sufficient to assure the investor in new securities, there was no difficulty in keeping pace with expanding traffic. In most cases the earnings from the additional traffic sufficed to pay a reasonable return upon the additional investment. The law of increasing returns had its full application as the improve-

ments or enlargements in equipment and facilities made it possible, with the larger traffic, to operate at lower unit costs. These lower unit costs enabled the railroads to absorb the gradually increasing wage rates or other additional operating expenses and taxes, and because investors had confidence in railroad securities they were easily marketable.

This situation continued as long as net earnings were sufficient. But the gradual tendency of higher operating costs, coupled with a national and state policy of regulation which tended to reduce rather than to increase rates, soon had the effect of reducing net income. The turning point came about 1906, or coincident with the passage of the Hepburn amendment to the Interstate Commerce Act. This amendment, with its power to prescribe maximum charges, gave the Commission complete control over rates. The 1910 amendment went a step further in giving the Commission the power to suspend rates. The period, too, was marked by unusual activity on the part of state commissions and state legislatures. Many new laws were passed, nearly all of which either reduced revenues or increased expenses. The difficulty was aggravated by a conflict of regulating laws as between the states themselves, and as between the states and the Interstate Commission.

Coupled with these adverse influences on net earnings came greater activity on the part of the

railroad labor organizations in their demands for higher wages. While the steadily growing burdens of increased operating expenses and taxes impinged upon and forced net income downward, the railroads were unable to convince the Government regulating authorities that rates should be increased in a degree which would maintain net income. Consequently it became difficult to appropriate money for betterments, and during the decade which preceded our entrance in the World War the program of extensions, enlargements, and improvements was far below the normal rate of earlier years. Not only were the railroads as a whole unable to raise the funds necessary to equip themselves for prospective increases in traffic, but many were in such financial straits that they found themselves unable to maintain their solvency. The year 1915 marked the peak of railroad receiverships. In September of that year approximately 42,000 miles, or about one-sixth of the entire railroad mileage of the country was in the hands of the courts.

Among the bankrupt properties were included the following important railroads:

Atlanta, Birmingham & Atlantic.....	645	miles
Chicago & Eastern Illinois............	1282	"
Cincinnati, Hamilton & Dayton.......	1015	"
Chicago, Rock Island & Pacific.......	7847	"
Colorado Midland....................	338	"
International & Great Northern.......	1106	"
Missouri, Kansas & Texas............	3865	"
Missouri Pacific	7285	"
Pere Marquette......................	2322	"

St. Louis & San Francisco	4747	miles
Toledo, St. Louis & Western	450	"
Wabash	2514	"
Western Pacific	946	"
Wheeling & Lake Erie	459	"

Besides these 14 important railroads, 68 smaller properties were then in the hands of the courts. The combined mileage of the 82 roads was 41,988, and their total capitalization amounted to $2,264,-002,178.*

Under such strained financial conditions it was but natural that railroad development should be halted. New construction practically ceased. The mileage of new railroad built in that year was less than in any year since the period of the Civil War. The figures speak for themselves:

MILES OF NEW FIRST TRACK BUILT DURING DECADE 1906-1915**

Year	Miles
1906	5,623
1907	5,212
1908	3,214
1909	3,748
1910	4,122
1911	3,066
1912	2,997
1913	3,071
1914	1,532
1915	933

The slowing up in railroad development was reflected also in the statistics relating to new

*_Railway Age Gazette_, Oct. 1, 1915, p. 587, and Oct. 15, 1915, p. 676.

**_Railway Age Gazette_, Dec. 31, 1915, p. 1247.

equipment. Orders for new locomotives and cars dropped to an unprecedented low level, and drastic retrenchment and curtailment in service were everywhere in evidence.

The spokesmen of the railroads made earnest and continued appeals in an effort to arouse the interest of the public and, through the public, the interest of the governmental regulating authorities in the seriousness of the railroad situation. Among these spokesmen none presented the railroad case with more vigor or with more vision than the late James J. Hill. For several years before the World War he foresaw the ultimate effect of the slowing down of railroad development, and he sounded a note of warning, predicting that national embarrassment would come. He plead for a policy of regulation which would make it possible to invest one billion dollars annually in railroad facilities, particularly in terminals. But the warning and the plea were not heeded.* The railroads were able to spend but a fraction of the sum which he regarded as necessary. Consequently the natural increase in traffic (ton-miles double about every 12 or 13 years) soon overtook and exceeded the capacity of the railroads

*"The inadequacy of our railroad system to meet the demands of our rapidly increasing population and the volume of transportation that our foreign trade demands, and to meet the requirements of a state of war which we face, is startling. We have had many warnings from railroad men as to what would occur under conditions like the present. Their warnings are now being vindicated. The embargoes which the railroads have been obliged to impose on legitimate shipments are a mathematical demonstration on how far short is our arterial system of interstate commerce." (Ex-president Taft, in address at Johns Hopkins University, Feb. 22, 1917.)

to give satisfactory service. The point of traffic saturation was reached.

This was the situation in 1915, when the flood of extra traffic incident to the great war broke upon the railroads. They were not prepared for the overload, but met the emergency with resourcefulness. The year 1916 brought a further increase in traffic as the orders for war materials to be shipped abroad grew in volume. Then came our declaration of war against the Central Powers in April, 1917, and with it the mobilization of the army and navy, the construction of cantonments, the beginning of the ship building and aircraft programs, and the large scale production of ammunition and supplies of all kinds for our fighting forces.

Having in mind the fundamental fact that during the 10 years immediately preceding the date of our participation in the World War the railroads of the country had been unable to earn net income sufficient for them to maintain their credit and to attract new capital for needed enlargements and improvements in facilities, and that the abnormal traffic incident to war conditions was so great as to exceed the capacity of their lines and terminals, it was inevitable that congestions and delays should occur. Such a result, particularly on the lines serving the eastern seaboard, where most of the additional traffic centered, could not be avoided.

CHAPTER III

THE RAILROADS' WAR BOARD

THE gravity of the situation was fully realized by the railroad executives, and when we entered the war they acted quickly in an effort to meet the emergency. It will be recalled that in 1914, almost immediately after England declared war against Germany, the British Government took over the railroads and operated them through a board consisting of the general managers of the principal railroads. When the United States became associated with the Allies, a move similar to that taken by the British Government was anticipated by our railroad executives, but they decided to take the initiative themselves. Within five days after our declaration of war against Germany the Railroads' War Board was organized under a resolution signed by the chief executive of practically every railroad in the United States. The resolution bound the railroads individually to coordinate their operations during the war within a continental railroad system, "merging during such period all their merely individual and competitive activities in the effort to produce a maximum of transportation efficiency." The complete text of the resolution follows.

"*Resolved,* That the railroads of the United States, acting through their chief executive officers here and now assembled, and stirred by a high sense of their opportunity to be of the greatest service to their country in the present national crisis, do hereby pledge themselves, with the Government of the United States, with the Governments of the several States and one with another, that during the present war they will coordinate their operations in a continental railway system, merging during such period all their merely individual and competitive activities in the effort to produce a maximum of national transportation efficiency. To this end they hereby agree to create an organization which shall have general authority to formulate in detail and from time to time a policy of operation of all or any of the railways, which policy, when and as announced by such temporary organization, shall be accepted and earnestly made effective by the several managements of the individual railroad companies here represented."

The personnel of the Executive Committee of the War Board was as follows:

Fairfax Harrison (Chairman), President, Southern Railway.
Howard Elliott, Chairman, Northern Pacific Railway.
Hale Holden, President, Chicago, Burlington & Quincy R. R.
Julius Kruttschnitt, Chairman, Southern Pacific Co.
Samuel Rea, President, Pennsylvania R. R.

While the controlling motive was one of patriotic endeavor to make the railroads the greatest possible aid to the Government in prosecuting the war, there was undoubtedly a desire on the part of many railroad executives to demonstrate to the public that American railroad men under private ownership and control of railroads could do their

part in the emergency without formal Government action like that taken in England. Such a demonstration, if successful, would curb the activities of the growing number of people who then looked with favor upon Government ownership as the ultimate solution of the railroad problem, and who advocated the immediate taking of the railroads as a war measure.

By the terms of the agreement, which was brought about by a special committee of the American Railway Association (the details of the plan had been worked out several weeks before we declared war), the operations of all railroads as a continental system were to be directed by the executive committee of the Railroads' War Board, to whom the chief executive of each railroad company had formally delegated authority to merge competitive activities and to make common use of facilities and equipment. The activities of the Railroads' War Board were tied into the activities of the Council of National Defense by Daniel Willard (President, Baltimore & Ohio R. R.), a member of the Council who became *ex officio* a member of the War Board, and were similarly coordinated with the work of the Interstate Commerce Commission through Commissioner Edgar E. Clark. The two *ex officio* members participated in the deliberations of the Railroads' War Board and in the shaping of its policies. There was also active and continuous cooperation between the Railroads' War Board and the army and navy, and the Food and Fuel Administrations, and points of contact were estab-

lished with practically all other governmental agencies.

Each railroad individually was operated by its chief executive under instructions from the executive committee of the Board. Outside of freight car utilization and troop movements, an excess of centralized control of detail was avoided. The executive committee exercised its control through regional committees presided over by the following chairmen:

Region	Chairman
Northeastern	J. H. Hustis, *Receiver*, Boston & Maine R. R.
Eastern	L. F. Loree, *President*, Delaware & Hudson Co.
Southeastern	W. J. Harahan, *President*, Seaboard Air Line.
Central	R. H. Aishton, *President*, Chicago & Northwestern Ry.
Southern	W. B. Scott, *President*, Southern Pacific Lines.
Western	Wm. Sproule, *President*, Southern Pacific Lines.

These chairmen, with the executive committee and the *ex officio* members, made up the complete Board. As regional executives they exercised jurisdiction in territories which corresponded with the five army departments, namely, the Northeastern, the Eastern, the Southeastern, the Central, and the Western districts with their respec-

tive chairmen for the Railroads' War Board and generals in charge of the army departments. At each army headquarters and at each cantonment, camp or mobilization point (112 in all) a representative of the Railroad Board was stationed to insure prompt and effective cooperation between the army authorities and the railroads, and during the months from July to December, 1917, the railroad transportation needs of the army were met in a manner which brought nothing but praise from the army authorities.

In his annual report for 1917, Secretary of War Baker made this reference to railroad cooperation:

"In this general connection it seems appropriate to refer to the effective cooperation between the department and the transportation agencies of the country. For a number of years the Quartermaster General's Department has maintained close relations with the executives of the great railway systems of the country. In February, 1917 a special committee of the American Railway Association was appointed to deal with questions of national defense, and the cooperation between this committee and the department has been most cordial and effective, and but for some such arrangement the great transportation problem would have been insoluble. I am happy, therefore, to join the Quartermaster General in pointing out the extraordinary service rendered by the transportation agencies of the country, and I concur also in his statement that of those who are now serving the nation in this time of stress, there are none who are doing so more wholeheartedly, unselfishly and efficiently than the railroad officials who are engaged in this patriotic work."

While the first energies of the Railroads' Board were devoted to satisfying the demands of the

army and navy, efforts were made to take care of the needs of other branches of the Government, and to impose the minimum of hardship upon the civilian population. The executive committee, the regional chairmen, and the several sub-committees of the Board did their best to bring about complete unification of facilities and equipment and to eliminate the "merely individual and competitive activities." Much of merit was accomplished by the Commission on Car Service in its efforts "to make one freight car do the work of two." Considerable progress was made in bringing about the joint use of terminals and running tracks, in reducing the volume of traffic moving via circuitous routes, and in curtailing superfluous passenger trains established for competitive reasons.* The statistical records of April to December, 1917 show commendable improvements in the efficient utilization of locomotives and freight cars, and the inconvenience to the civilian travelers was much less than that which was imposed in England.

Yet the results as a whole were not satisfactory in the latter part of 1917. Freight congestions began to occur on the lines serving the Atlantic seaboard. Yards, sidings, and even running tracks were clogged with cars. The freight service as a whole on the lines between Chicago, Pittsburgh, and the Atlantic ports was badly demoralized.

*The reduction in passenger service (estimated at 20,000,000 train-miles per year) was mainly on the roads east of Chicago. Relatively little was done on the transcontinental lines. Their failure to act may be traced to the influence of competition.

One reason for these congestions is found in the failure of the railroads to keep up their programs of enlargement and improvement, and to maintain their usual scale of additions to the equipment of locomotives and freight cars. The small factor of safety that remained in 1917 was exceeded, and the flow of traffic at strategic points was impeded. It is an axiom of transportation that the capacity of a road as a whole is limited by the capacity at strategic points. The "neck of the bottle" may be the receiving or final terminals, it may be the intermediate yards, it may be the engine terminals, it may be the supply or the condition of locomotives, it may be the number of experienced train crews, or it may be the capacity of the management to cope with new problems. In this case the principal difficulties were found in the terminals at Pittsburgh, Baltimore, Philadelphia, and New York. The great bulk of the additional war traffic from other sections of the country was required to move through those terminals and the railroads had also to supply the raw materials to and take the finished products from the many manufacturing plants in Pennsylvania, Delaware, New Jersey, New York, and the New England states.

The failure to control the flow of export traffic was the second cause of the congestion. Freight for export was accepted without regard to the capacity of the available ships. Part of the war materials for the Allies was ordered from American manufacturers under contracts which pro-

vided that a large percentage of the invoice would be paid as soon as the materials were loaded on cars.* The profits on these contracts were large. The traffic departments of the railroads were eager to get the tonnage. There was, therefore, every inducement to load the materials into the cars at the earliest possible moment. The result was that the export tonnage on the rails very much exceeded the capacity of the ships, and the cars containing the excess were held for months at a time. If something like the permit system which was adopted later by the United States Railroad Administration had been put into effect, or if the Railroads' War Board had been able to curb the spirit of competition which apparently blinded the traffic and executive departments of the railroads to the obvious consequences, the flow of this traffic might have been controlled at the source and the crisis might have been avoided. As the trouble developed at the seaports the cars backed up and filled the intermediate yards. Then it affected the large producing centers at and east of Pittsburgh. Then it backed up to Chicago and the Mississippi River points. Freight cars held weeks and months under load were not released in time to be returned for new loads, and a car shortage resulted. Efforts to pick out certain cars from the accumulation added to the delay and confusion.

*This applied particularly on materials for Russia. The breakdown in that country left vast stores of materials on cars at both the Atlantic and the Pacific seaports.

The original Act to Regulate Commerce (1887) provided that the railroads, in time of war, should give preference and precedence over all other traffic to the movement of troops and materials of war, and should adopt every means within their control to facilitate and expedite military traffic. Under this authority each branch of the Government insisted upon priority in the movement of its freight, but there was no effective agency for coordinating these demands. As the Government freight made up such a large part of the total traffic of the eastern roads, and as nearly every department pressed for special priority for its cars, the situation became one of demoralization. It was stated that on one day in the latter part of 1917 a count of the eastward-bound loaded cars on the Pennsylvania Railroad east of Pittsburgh indicated that something like 80% were marked for priority. Here was a third reason for the transportation crisis.

Still another important factor, already referred to in connection with the export situation, was the failure of the Railroads' War Board to put an effective curb on competitive influences. This was but natural. Railroad officials had been brought up in an atmosphere of competition, and our national policy of regulation is predicated upon unhampered competition. The anti-pooling and the anti-trust laws are examples of legislation for enforcing competition. In fact, there was some fear that the Attorney General might question the legality of the Railroads' War Board, and

there was uncertainty as to how long it would continue to function. A railroad executive with a jealous regard for the interests of his stockholders had some justification for hesitating to give up something which might permanently benefit a natural rival and permanently affect adversely the value of his property. These incidents in the main attached to traffic relations; they had little bearing upon the strictly operating features.

CHAPTER IV

COMPULSORY UNIFICATION UNDER FEDERAL CONTROL

BY December, 1917, the railroad situation had become acute. There was much conjecture as to what would be done. The Interstate Commerce Commission, in a special message to Congress, recommended that complete unification of the railroads should be effected, either by the carriers themselves, with the assistance of the Government, or by their operation by the President as a unit during the war.

"If the unification is to be effected by the carriers," said the Commission, "they should be enabled to effect it in a lawful way by the suspension, during the period of the war, of the operation of the anti-trust laws, except in respect of consolidations and mergers, and of the anti-pool provision of the commerce act. In addition they should be provided from the Government treasury with financial assistance in the form of loans, or advances for capital purposes, in such amounts, on such conditions, and under such supervision of expenditure as may be determined by appropriate authority.* * * If the other alternative be adopted, and the President operates the railroads as a unit during the period of the war, there should be suitable guarantee to each carrier of an

adequate annual return for use of the property, as well as of its upkeep and maintenance during operation; with provision for fair terms on which improvements and betterments, made by the President during the period of his operation, could be paid for by the carrier upon return to it of the property after the expiration of that period."

Commissioner McChord, in a dissenting opinion, disagreed with the majority recommendation that the carriers be permitted to bring about complete unification themselves with aid from the Government. Instead he urged that "the supreme arm of governmental authority is essential," either by the exercise of the President's authority to operate the roads or by the creation of a single governmental administration control. In his opinion unification of diversified governmental control was as vital as unification of the properties.

The uncertainty in the situation was dissolved by the President on December, 26, 1917, when he took possession of the railroads of the country as a war measure, and appointed William G. McAdoo, Secretary of the Treasury, as Director General of Railroads, to act for the President.

This action was taken under the authority granted to the President by the Army Appropriations Act of August 29, 1916. One section of the Act reads as follows:

"The President, in time of war, is empowered, through the Secretary of War, to take possession and assume control of any system or systems of

transportation or any part thereof, and to utilize the same to the exclusion as far as may be necessary of all other traffic thereon, for the transfer or transportation of troops, war materials and equipment, or for such other purposes connected with the emergency as may be needful or desirable."

This section of the Act was probably intended to provide for an emergency which might arise in connection with Mexico in 1916. At the time of its passage there was no immediate prospect of the United States entering the European war.

The President's proclamation and his letter to Congress are such important historical documents that they are reprinted in full in the Appendix. They intimate that the impelling motive for federal control was one of finance. "Complete unity of administration in the present circumstances involves upon occasions and at many points a serious dislocation of earnings, and the committee (the Railroads' War Board) was, of course, without power or authority to rearrange charges or effect proper compensations and adjustments of earnings. Several roads which were willingly and with admirable public spirit accepting the orders of the committee have already suffered from these circumstances and should not be required to suffer further."

The tenseness of the labor situation was another ground for the federalization of railroads. The high wages paid in the shipbuilding yards, in munition plants, and in other work on war supplies, and the sharp advances in the cost of

living, had caused much unrest among railroad workers. While the railroad executives were deliberating, there were threats of strikes, and the situation during the latter part of 1917, just preceding federal control, was exceedingly acute.

But, with all the emphasis placed upon matters of finance and their effect upon the pressing problems of enlargement, upon labor unrest, and upon the coordination of facilities, other reasons were in the background. One of the great obstacles to complete coordination of facilities under voluntary agreement among the railroads was law-made rather than railroad-made. The things which the United States Railroad Administration at once set about to do were the very things that the railroads as private corporations were forbidden to do by the anti-trust and anti-pooling laws. What the Railroads' War Board had done in voluntary unification was, in important respects, directly contrary to those laws, and the executives knew that they might be held personally liable. There were no informal "understandings" that under the emergency conditions the Department of Justice would overlook the situation. On the contrary, there were positive indications by official inquiries that the Attorney General was keeping himself informed of every move. The laws obliged railroads to compete; they prohibited the pooling of facilities and earnings. Under the war conditions the maximum of transportation production depended to a large extent upon effective coordination, which required the pooling of resources. This phase of the situa-

tion undoubtedly had weight in the Government's decision to take over the railroads.*

The President's proclamation of December 26, 1917 directed Mr. McAdoo, as Director General of Railroads, to take possession of and control, operate, and utilize "each and every system of transportation and appurtenances thereof," and to "perform the duties imposed upon him through the boards of directors, receivers, officers, and employees of said systems of transportation. Until and except so far as said director shall from time to time by general or special orders otherwise provide, the boards of directors, receivers, officers, and employees of the various transportation systems shall continue the operation thereof in the usual and ordinary course of the business of common carriers, in the names of their respective companies." The Director General's first general order accordingly directed that "all officers, agents, and employees . . . may continue in the performance of their present regular duties, reporting to the same officers as heretofore and on the same terms of employment." The local operating organizations were not changed.

Under this order the president of a railroad company acted as agent of the Director General and at the same time continued as the chief executive of the corporation—a form of organization which was continued until after the passage of the Federal Control Act, approved March 21, 1918.

*The Federal Control Act provided for the war-time suspension of the anti-trust and the anti-pooling laws as applied to railroads.

That Act set forth the terms of compensation to the corporations and otherwise established the relations between the Director General as the lessee of the railroads and the individual companies as lessors.

Immediately after the passage of the Control Act an attempt was made to draw a fairly sharp line between railroad activities which were purely corporate and those which were federal. For example, on March 30, 1918, Circular No. 17 outlined a policy under which the salaries and expenses of officers and employees engaged primarily in work for the corporation would be paid from corporate funds, if the corporation desired to continue their services, and under which the Government would pay the salaries and expenses of such officers and employees only as were necessary for the federal operation of railroads. This circular was aimed at such corporate officers as chairmen of the board, general counsel, and executive financial officers such as the New York corporate organizations of western and southern railroads.

This action was followed on May 21 by a fundamental change in organization. Instead of continuing the chief executive of a railroad company as the agent of the Government, the Director General ordered that there should be a distinct cleavage between federal and corporate activities. To that end he required that a federal manager, to act for the Director General, should be appointed for each railroad or for each group of railroads in the cases where some of the small

roads were operated as parts of larger systems. The federal manager of the Baltimore & Ohio Railroad, for example, had charge also of the Western Maryland and the Cumberland Valley Railroads. Federal managers were obliged to sever all connections with the railroad companies. They were to represent the Government exclusively.

In most cases the president or the operating vice-president was chosen as federal manager. Thereafter there were two sets of officers and employees. The first, the federal organization, included as its principal officers a federal manager (on a few of the larger systems there was also a general manager), a federal auditor, a federal treasurer, a federal counsel, and other officers necessary under governmental operation. The second set of officers looked out for corporate interests and consisted of a president, secretary, corporate auditor, corporate treasurer, and others necessary to serve the interests of the company while the roads were under federal control. This action, designed to remove the possibility of conflict of interest and of loss to the Government by the former plan of dual responsibility, was precipitated by a few cases in which the Director General did not receive the measure of support which he believed was necessary.

In announcing the new policy Mr. McAdoo said:

> Inasmuch as "no man can serve two masters," and the efficient operation of the railroads for winning the war and the service to the public is the purpose of federal control, it was manifestly wise to release the

presidents and other officers of the railroad companies, with whose corporate interest they are properly concerned, from all responsibility for the operation of their properties. . . . All ambiguity of obligation is thus avoided. Officers of the corporation are left free to protect the interests of their owners, stockholders, and creditors, and the regional and operating managers have a direct and undivided responsibility and allegiance to the United States Railroad Administration.

Mr. McAdoo asserted that the Government saved large sums by the change and much publicity was given to the "fancy salaries" paid railroad presidents and others who were by this action transferred to the corporate payrolls and paid from corporate funds, or who, as federal managers, were paid lower salaries. The majority of the officers who accepted the higher positions in the regional and central organizations received smaller salaries than they had received as officers of railroad companies, but the number whose compensation was reduced was not large among federal managers. A few were benefited financially.*

With this change in the relations between the Director General and the companies, the organization of the United States Railroad Administration

*"Under private control of the railroads 2,325 officers drawing salaries of $5,000 a year or over were employed, with aggregate salaries of $21,320,187. Under Government control 1,925 officers (a reduction of 400) are doing the same work, and the aggregate of their salaries is $16,705,298—a saving of $4,614,889 per annum. This total includes the officers of the various regional districts as well as those of the central administration in Washington." (Report to the President by the Director General of Railroads, for seven months ending July 31, 1918.) This feature of federal control was emphasized for political effect. The salaries of general officers take less than 1% of operating revenues.

assumed the form which continued without substantial alteration during the entire period of federal control. The unit of organization was the federal manager of a road or a small group of roads. The country was divided into seven regions—Eastern, Allegheny, Pocahontas, Southern, Northwestern, Central Western, and Southwestern. Each region was in charge of a regional director, assisted in some cases by district directors. The regional directors had control over all activities within their respective regions, but in functional matters their work was coordinated by the several directors of the central administration.

An organization chart would show full lines of responsibility and authority between the regional directors and the Director General, with broken lines indicating advisory relations between the regional directors and the directors of the several divisions. But the procedure was never definitely understood, and at times there was confusion. In theory the regional directors, controlling the several federal managers, were intended to be supreme in their respective regions, and were to be responsible directly to the Director General. It was the intention that the central organization should work through the regional directors. In practise, however, there was much "short-cutting" between officers of the central administration and the federal managers, federal auditors, federal treasurers, and other officers subordinate to federal managers. There was

some feeling on the part of the regional directors that they should not be held responsible for actions over which they had no direct control. Yet on the whole, considering the size of the organization* and the lack of time in which to work out and publish a *Manual of Organization* with a clear definition of authority and responsibility, the confusion was relatively small. Inasmuch as the motives of practically every one in the official organization were in harmony with the controlling desire to operate the railroads at the highest pitch of efficiency for war purposes, it was just as well that the order of procedure was not so bound up by rigid rules as to substitute army "red tape" for a reasonable degree of personal initiative in short-cutting where the circumstances justified.

Mr. McAdoo displayed excellent judgment in the selection of the regional and divisional staff directors. In nearly every case he was successful in recruiting men of exceptional and well-recognized ability as railroad executives. With the exception of a few members of his personal staff his selections were wholly from railroad ranks and he aimed to secure the highest order of talent.

As director of the Eastern region he chose A. H. Smith, president, New York Central Lines. Mr. Smith was assisted by three district directors: J. H. Hustis, receiver, Boston & Maine R. R., for New England; A. T. Hardin, vice-president, New York Central R. R., for the Central district; and

*Railroad officers and employees in federal control with those employed by the Pullman lines, express company, and water lines numbered approximately 2,000,000, or half as many men as were in the army and navy at the height of our military activity.

H. A. Worcester, vice-president, C. C. C. & St. L. Railway, for the Ohio-Indiana district. The other regional directors were: Allegheny region, C. H. Markham, president, Illinois Central R. R.; Pocahontas region, N. D. Maher, president, Norfolk & Western Railway; Southern region, B. L. Winchell, director of traffic, Union Pacific R. R.; Northwestern region, R. H. Aishton, president, Chicago & Northwestern Railway; Central Western region, Hale Holden, president, Chicago, Burlington & Quincy R. R.; and Southwestern region, B. F. Bush, president, Missouri Pacific R. R. Each of the regional directors chose a staff of high-grade men as regional assistants in transportation, traffic, engineering, mechanical, accounting, and purchasing.

Mr. McAdoo's selection as his principal assistant was Walker D. Hines, chairman of the board, Atchison, Topeka & Santa Fe Railway, a railroad lawyer of conspicuous ability. Mr. Hines subsequently succeeded Mr. McAdoo as Director General. The personnel of the directors of the several divisions was as follows:

Division of Operation: Carl R. Gray, president, Western Maryland Railway. His principal assistant was W. T. Tyler, assistant to vice-president, Northern Pacific Railway. Mr. Tyler succeeded Mr. Gray as director of the division in January, 1919. The division was subdivided into several sections (such as car service, troop movement, mechanical, engineering, fuel conservation, telegraph, operating statistics, inspection and

test, safety, secret service, and health) with a manager in charge of each section.

Division of Traffic: Edward Chambers, vice-president, Atchison, Topeka & Santa Fe Railway. His principal assistants were Robert C. Wright, freight traffic manager Pennsylvania R. R., and Gerrit Fort, passenger traffic manager, Union Pacific R. R. The division included the following sections or committees: express and mail, agricultural, inland traffic, and consolidated classification, with passenger traffic committees and freight traffic committees for the East, South and West.

Division of Finance and Purchases: John Skelton Williams, controller of the currency. This division was subsequently split into two parts—Finance, in charge of former Congressman Swager Shirley, and Purchases, directed by H. B. Spencer, vice-president, Southern Railway.

Division of Law: John Barton Payne, counsel for the Emergency Fleet Corporation.

Division of Accounting and Public Service: Charles A. Prouty, director of valuation, Interstate Commerce Commission. Judge Prouty during a long term of years was a member of the Commission. In 1919 this division was separated into two parts. Judge Prouty continued in charge of accounting and Max Thelen, former chairman of the California Railroad Commission, was appointed director of public service.

Division of Capital Expenditures: R. S. Lovett, chairman, Union Pacific System. When Judge

Lovett resigned in 1919 he was succeeded by T. C. Powell, vice-president, Southern Railway.

Division of Labor: W. S. Carter, president, Brotherhood of Locomotive Firemen and Enginemen. The three boards of adjustment were a part of this division. The Board of Railroad Wages and Working Conditions reported direct to the Director General.

These details are given to indicate the high caliber of men selected to carry on the work of the Railroad Administration. It is proper to state that Mr. McAdoo personally did little more than direct the general policy, particularly as to public relations and labor. His duties as Secretary of the Treasury left him little time to devote to the railroads, especially while the several Liberty Loan campaigns were under way. The organization at headquarters and in the field, therefore, was essentially railroad-trained, and outside of relations with labor and large matters of public policy, Mr. McAdoo left nearly everything to his railroad-trained assistants and the regional directors.

One of the Director General's first general letters of instruction to the regional directors, that of February 4, 1918, defining the duties of the regional directors, is quoted in full, as it gives a fairly clear picture of what was in his mind in the first days of the Administration when the organization was beginning to function effectively:

"DEAR SIRS: The following is an outline of the functions of the Regional Directors. I shall be glad if you will bring to my attention from time to time any points which are not clear to you or which you think call for modification or extension.

"Broadly speaking, I wish to give you power to direct railroad operations in your territory so as to handle traffic with the least congestion, the highest efficiency, and the greatest expedition. As far as is consistent with these objects you will, of course, keep down operating expenses.

"I have put responsibility upon you for the entire operating situation. I mention the following simply as few illustrations of the matters which are thus intrusted to you:

"You should see that terminals are used to the best advantage and that such changes in established practises are made as will bring this about.

"Where minor capital expenditures are needed to establish new connections for the better use of terminals, you will endeavor to get some or all of the interested companies, by their voluntary action, to arrange therefor, and will refer to me cases of expenditures which cannot be so arranged.

"You will order such changes in routing of traffic, using any lines or parts of lines in combination as will avoid uneconomical routes and congestion of particular terminals or railroads, giving due consideration to shippers' interests.

"The Commission on Car Service has been replaced by the Car Service Section of the Division of Transportation (the personnel remaining largely the same). The Car Service Section—

"(*a*) Will have charge of all matters pertaining to car service, including the relocation of freight cars as between individual railroads and regions.

"(*b*) Will issue instructions through the Regional Director providing, on application of proper governmental authorities, for preference in car supply and movement.

"(*c*) Will receive from railroads such reports, periodical or special, as it may require in order to keep fully informed with respect to car service, embargo or transportation conditions.

"(*d*) Must be promptly informed of all embargoes placed, modified or removed, and will, from time to time, recommend such embargo policies and exemptions as the needs of the Government, seasonal requirements, or other circumstances may demand.

"(*e*) Will deal directly with railroads with respect to matters within its jurisdiction, and will keep the Regional Directors advised of all instructions or orders in which they are concerned.

"You will keep fully advised as to the situation concerning the use of locomotives, repairs to locomotives, amount of shop capacity, and amount of shop labor available for locomotive repairs. You will have power to promote the general good of the transportation situation in your region by making transfers of locomotives from one railroad to another or of locomotives needing repairs from one shop to another and transfer of shop labor from one shop to another. Such transfers, should, of course, have reference to any agreements between labor and the company affected and be made with just regard to the welfare and rights of employees. You will, of course, have like duty and power respecting car repairs.

"As to labor, you have been advised of the appointment of the Railroad Wage Commission. The general policy as to all labor is that there shall be no interruption of work because of any controversies between employers and employees. All matters relating to wages and living conditions will have the consideration of the Railroad Wage Commission.

"Pending action by me upon the report of that commission there ought not to be any radical change in existing practises without submitting the matter to me for approval. But it should be understood that the usual methods of settling by agreement ordinary grievances and complaints shall continue as heretofore and that the companies are free to negotiate as heretofore with their employees and are expected to observe faithfully existing agreements with their employees. In cases of doubt about new negotiations with employees, the advice of the Director General should be sought.

"You should bear in mind that labor has the very natural feeling that railroad managers, although now working for the Government and on Government account, necessarily continue the same conception of and attitude toward labor problems that they had when acting under private management. I am told that labor will have a natural suspicion that any unfavorable action taken by railroad managers indicates a purpose on their part to make governmental control a failure and to use it for promotion or vindication of their own theories.

"For these reasons, great care should be taken to avoid anything having even the appearance of arbitrary action, and it will be expedient, at least at the outset and until the matter shall take more definite shape, not to dispose, unless by mutual agreement, of any labor claims involving large questions of policy without first submitting the matter to me.

"In the central organization in Washington I propose to have a labor man as a member of my staff who will give his special attention to labor problems, not only to the problems of wages and conditions but also to the problem of aiding the railroads in obtaining sufficient labor and of bringing about a better understanding between officers and employees. The morale and esprit de corps of officers and men should be brought to the highest standards.

"There are several matters involving broad questions of public policy concerning which I wish you to make careful studies and report to me with your recommendations.

"1. To what extent if at all should additional passenger service be discontinued in order to save coal, labor, locomotives, and shop capacity for freight service. In arriving at any recommendations on this matter it is very important to give due consideration to public convenience. It is quite probable that I shall wish to take the matter up informally with State railroad commissions as to any reductions in service which you think should be made. In dealing with such matters the local point of view must be considered and the State commissions afford a useful instrumentality for obtaining this point of view, and also, to the extent that we can act in harmony with the commission's views, for satisfying local public sentiment as to what is done. So far the State commissions have evinced a commendable spirit of cooperation.

"2. I wish you also to make careful study of the extent to which (*a*) freight solicitation should be discontinued or diminished and freight and passenger agencies, freight offices, ticket offices, and so forth, discontinued or consolidated; (*b*) the extent to which traffic officials, soliciting or otherwise, should be transferred to other service and to what other service they should be assigned; and (*c*) extent to which, if at all, any portion of these forces should be released from service.

"3. I wish you also to make a study of (*a*) the extent to which duplications of service can be avoided, both passenger and freight; (*b*) extent to which fast freight service can be discontinued or slowed down; (*c*) extent to which less-than-carload service can be consolidated or diminished; at all times having reasonable consideration for the public convenience.

"4. I would like to have your views as to the extent to which the making of purchases can be unified either

for the entire country, or for the separate regions, or for parts thereof, accompanying it with a statement of the advantages which you think would result from such unification.

"5. The extent to which standardization may be effected in your region on the railroads in your territory (*a*) with respect to locomotives—the various types which will be required to effect the best standardization; (*b*) freight cars, open and box cars, and the various types which will be best adapted for use in your territory.

"Your recommendations should be made in reference to the adoption to the same standards throughout the United States except in so far as local conditions can make specific types or designs desirable to meet the peculiarities of such local conditions.

"6. In general, I shall be glad to have you make a study of the extent to which various classes of operating expenses can be curtailed or eliminated on account of present conditions of Government possession and control. Of course, you understand that by virtue of General Order No. 6 it will be necessary for local associations * to make applications for the Director General's approval if it is desired that they continue to be supported out of operating revenues. If any such applications are made to you, I shall be glad to have your recommendations in regard thereto, being guided by the principle that no functions should be carried on by associations whose expenses are chargeable against operating revenues except such functions as are reasonably necessary under the existing condition of Government possession and control, and that only the expense appropriate to such functions should be paid out of operating revenues.

"On all these matters I shall appreciate your specific recommendations at the earliest practicable date.

*This refers to associations of railroad officers, such as the American Railway Association.

"In dealing with this whole subject it is, of course, important for you to view the matter, and to get the various railroad executives of railroads in your jurisdiction to view the matter, from the entirely new standpoint that all the railroads now constitute a single system to be operated so as to secure the maximum of transportation with the minimum of waste, and that the fact that a readjustment will mean that a particular railroad will lose certain sorts of traffic must be disregarded as it is not sufficient reason why the readjustment should not be made, if in other respects it is in the public interest.

"Certain general matters are having consideration here and somewhat later will probably be taken up with you. Examples of these matters are additions and betterments, what equipment not already ordered needs to be provided. I shall be greatly interested in any suggestions which you can make to me on these matters at the present time and from time to time.

"You will of course have the right to continue or discontinue or create such local committees or representatives as you think proper to insure the best results at particular terminals or in particular subdivisions of your territory. Doubtless at many important terminals you will find it advantageous to select some exceptionally able, aggressive, and tactful railroad representative to take charge of the terminal and to coordinate with the railroad activities, the activities of merchants, coal dealers, truckmen, and so forth, so as to secure the best possible results in the loading and unloading of cars.

"I take it that your communications to the railroads in your region should be to the respective presidents, receivers, or other chief operating officers with such modifications of that practise as you may think advisable, arranging, however, in case of such modifications, that the president, receiver, or other chief operating officer fully understands the practise which you pursue.

"Pending the further shaping of the work, there are various general subjects which you should refer to this

office and in all such cases I shall appreciate your suggestions or recommendations. Among such subjects are financial problems and legal problems.

''I wish to emphasize that I do not consider it expedient for the Regional Directors to undertake to establish without my approval, policies of a public character, i. e., policies which substantially affect the character of service rendered the public or the rights of the public.

''Substantial reduction of passenger service is an example of this character. It is impracticable to define these matters clearly, but practical definition will evolve gradually as cases arise. Meanwhile doubtful questions should be submitted to me.

''The controlling principles is that the Government being now in possession and control, it is important for the Director General, as the direct representative of the Government, to have a voice in deciding matters which primarily affect the public, because we cannot expect that the public will be entirely satisfied to have these matters settled by the railroad managers, which in the public estimation will still be regarded as imbued with the attitude of private management, no matter how disinterestedly those managers may be endeavoring to represent the public interest and nothing else.

''Generally speaking, you will develop your organization as you think necessary, but it seems to me that in any event you will need a competent traffic representative who should be selected with the concurrence of Mr. Edward Chambers, who will be in charge of the Division of Traffic with headquarters at Washington. I think you had better treat your organization as tentative until you have submitted the organization plan to me, as I may, upon consideration of tentative plan, wish to make some suggestion upon the subject.''

CHAPTER V

THE CONTRACT BETWEEN THE GOVERNMENT AND THE RAILROAD COMPANIES

FROM the date of the passage of the Federal Control Act,* March 21, 1918, until the latter part of the following October, a large part of the time of the Director General and his legal and other advisors was taken in framing a standard contract* between the Government and the railroad companies. While the contract was to be based upon the provisions of the Federal Control Act, the terms of the Act were so hurriedly drawn that many complications and opportunities for dispute in interpretation were apparent when the attempt was made to draft a formal contract. The negotiations between Mr. McAdoo and his legal staff, representing the Government, and T. DeWitt Cuyler, Alfred P. Thom, and others, representing the Association of Railway Executives, were long drawn out, and the contract finally agreed upon contains many compromises, nearly all of them in favor of the Government. On the part of the Director General there was a disposition to be unyielding and on the part of the railway executives there was an appreciation of the fact that

* The Federal Control Act and the standard contract are included in the Appendix.

the stress of the emergency was such that they could not afford to make an issue on controversial features which in calmer times would have been decided in their favor.

The principal points of difference were in connection with the method of measuring the adequacy of maintenance and as to the payments for additions and betterments. The Director General insisted that the Government should have the right to deduct the cost of such work from the payments to be made as rentals. The contract as finally approved provided (section 7) that the power to make such deductions should not be exercised so as to prevent the companies from supporting their organizations, keeping up sinking funds, and meeting other obligations such as corporate taxes, rents, and interest. It provided further in the same section:

"The power provided in this paragraph to deduct the amount due from the companies for the cost of additions and betterments not justly chargeable to the United States is further declared to be an emergency power, to be used by the Director General only when he finds that no other reasonable means is provided by the companies to reimburse the United States, and, as contemplated by the President's proclamation and by the Federal Control Act, it will be the policy of the Director General to so use such power of deduction as not to interrupt unnecessarily the regular payment of dividends as made by the companies during the test period."

The committee of railway executives sought earnestly to prevail upon the Director General to change his attitude in denying the right of

the companies to institute litigation at the end of federal control to recover for damages by reason of diversion of traffic during federal control, but Mr. McAdoo, supported by a ruling of the Solicitor General, insisted that the railroads having been taken over for war purposes, Congress intended that the authorized rentals should cover the possibility of future losses of the kind. Section 3 of the contract specifically provided that the companies may make no claim for loss or damage "to their business or traffic by reason of the diversion thereof or otherwise which has been or may be caused by said taking or by said possession, use, control, and operation."

The committee of the Association of Railway Executives acted only in an advisory capacity. Its acceptance of the contract did not bind any individual company.

The Federal Control Act gave legislative effect to the program outlined by the President in his proclamation of December 26, 1917, in which the Director General was directed to "enter into negotiations with the several companies looking to agreements for just and reasonable compensation for the possession, use and control of their respective properties on the basis of an annual guaranteed compensation above accruing depreciation and the maintenance of their properties equivalent, as nearly as may be, to the average of the net operating income thereof for the three-year period ending June 30, 1917."

In his proclamation the President stipulated also that the taking of the roads should not be

allowed to impair the rights of stockholders, bondholders, creditors, and other persons having interests. Regular dividends hitherto declared and maturing interest upon funded debt and other obligations were to be paid in due course, and the companies were to be permitted, unless otherwise directed by the Director General, to continue to pay such dividends and interest.

These assurances in the President's proclamation, duly enacted in the Federal Control Act two months later, were made a part of the standard contract. As has already been stated the companies were to be paid as annual compensation (called the standard return) a sum equal to the average yearly net railway operating income earned by each company during the three years ending June 30, 1917. By net railway operating income was meant the amount remaining after operating expenses, taxes, uncollectible railway operating revenue, and the net balances for use of joint equipment and joint facilities, had been deducted from operating revenues. The amount of the standard return for each road was to be determined by the Interstate Commerce Commission from its records, but provision was made for adjustments in the standard return to take account of unusual conditions which affected the test period as an equitable basis for compensation. For example, a road may have been subjected to abnormal expenses because of floods or other extraordinary circumstances; or it may have gone through a physical rehabilitation following a receivership; or it may have had its expenses bur-

dened during the first two years of the test period by extensions, enlargements or other improvements which were not completed until late in the test period and consequently affected the net earning power of the property during but a part of the test period although they added to net revenues during the entire period of federal control.* In such cases it is obvious that something should be added to the net railway operating income of the test period if the standard return were to represent the true earning power of the railroad during federal control.

There is little ground for the criticism often made that the rental was based upon the three most prosperous years of railroad history. It is true that the net income in 1916 was unusually large. On the other hand, however, the net income of 1915 was sub-normal. In 1917, it was about normal. The test period, therefore, included one poor year, one normal year, and one good year. The average of the three furnished a fair basis for compensation.

Out of this compensation, plus other corporate income such as that from investments or non-transportation activities, the companies were to pay their corporate expenses, interest charges, and other corporate deductions from income. The remainder was to be available for dividends (at regular rates), other appropriations, or surplus.

The cost of additions and betterments to the properties during federal control was to be paid

*Such was the case with the Southern Railway. It refused to sign the contract.

by the companies, but if work under way was continued with the approval of the Director General, or if new work was ordered by him, the companies were to be paid interest on the cost from the completion of the work. Additions and betterments ordered by the Director General for war purposes, if of no permanent value to the companies, were to be made the basis of claims against the Government.

All expenses relating to the existence and maintenance of the corporate organization were to be paid by the corporation from its standard return.

The section of the contract which deals with upkeep is discussed at length in Chapter XV. In brief, the contract required the Director General to expend and charge to operating expenses, or by payments into funds, such sums for maintenance, repair, renewal, retirement and depreciation, as might be requisite in order to return the properties to the company at the end of federal control in substantially as good repair and in substantially as complete equipment as it was when the road was taken by the Government.

The foregoing discussion mentions only a few of the important features on the contract. The complete text of the standard contract will be found in the Appendix to this volume.

Even after the form of the contract had been accepted by the committee of the Association of Railway Executives, and recommended to the individual companies for acceptance, there was much delay and controversy before agreement

was reached between the Director General and the individual companies. Up to January 1, 1919, contracts had been executed by but 23 of the 160 or more Class 1 companies. At the end of federal control 147 contracts had been executed and 83 were still under consideration. Of these, 49 had agreed with the Director General as to compensation, while 15 had declined to accept the compensation offered and had filed applications with referee boards to fix compensation. Six roads had declined to make contracts and seven had never made application therefor.

The foregoing discussion applies entirely to the contract with Class 1 railroads. A separate form of contract was drawn for the so-called "short lines." In most cases these roads were entirely local in their character, were independently owned and operated, and for the small amount of interline traffic which they handled, as well as the cars in which it moved, they depended almost entirely upon their Class 1 railroad connections. A large proportion of the short lines were unable to earn more than their charges and many were in even greater financial straits.

The statute under which the President took over the railroads authorized him to take all or any of the properties. In his proclamation of December 26, 1917, the President announced that he had taken possession of "each and every system of transportation and appurtenances thereof located wholly or in part within the boundaries of the continental United States," with the proviso that

"by subsequent order and proclamation, possession, control, and operation in whole or in part may also be relinquished to the owners thereof of any part of the railroad systems. . . . possession and control of which are now assumed."

Very few of the short lines, which in the aggregate numbered about 2,500 separate properties, were necessary for war transportation purposes. The Federal Control Act, in giving legislative effect to the President's proclamation, placed independently owned and operated railroads competing or connecting with the railroads taken over within the class of federally controlled roads, but it provided that roads which proved to be unnecessary or undesirable might be relinquished prior to July 1, 1918.

Investigation showed that very few of the large number of short lines were necessary for the purposes of federal control and, on June 29, 1918, 2,161 out of the 2,500 short lines were relinquished from federal control. A few of the relinquished roads were subsequently retaken.

At the time of the relinquishment it was announced by the Director General that on the part of the Railroad Administration a policy of cooperation with the relinquished roads would be maintained, that they would be accorded fair divisions of joint rates, an adequate car supply, and assured of the preservation of routings so far as consistent with national needs.

Following a series of negotiations with representatives of short lines, who feared that the change in the relationship between the short lines

and the individual connecting lines now unified on a non-competitive basis as between themselves under federal control, particularly in the matters of car supply and routing of competitive traffic, threatened the existence of a large number of the short lines, the Director General offered what was called a cooperative contract. By its terms the order of relinquishment was recalled, the road would be operated by its own officers, it would retain its own receipts and pay its own expenses, would be assured an equitable car allotment on a liberal *per diem* basis (two days free time per freight car), and would be guaranteed the preservation of the routing of competitive traffic in the same ratio that such traffic bore to the total traffic in the three years ended December 31, 1917. Provision was made for reimbursement for diverted traffic, for fair tariff publicity, and the short lines were to be free to avail themselves of the advantages of unified purchasing under federal control.

Up to the end of 1919, but 133 short lines elected to execute the cooperative contract, which was open to voluntary signature. In a letter from the Director General to the President of the American Short Line Railroad Association, dated February 19, 1919, the Director General defined the relative positions of the signatory and the nonsignatory short lines:

"I am advised by our general counsel that the short line railroads which sign the contract secure all the advantages of railroads which are under 'federal control' as specified in the Federal Control Act, including increases in rates and freedom from levy of attachment on their property. In addition thereto they will

secure the specific advantages as to reimbursement for diverted traffic, two days' free time, and otherwise, specified in the contract. Short line railroads which do not sign the contract of course do not receive the advantages of 'federal control'* specified in the Federal Control Act. While it will be the policy of the Railroad Administration to deal justly and fairly with non-signatory as well as signatory railroads those who do not sign the contract but who accept the special advantages of two days' free time and reimbursement for traffic diversions in accordance with the terms of the contract will do so with the understanding that they waive all claims against the Government and will execute appropriate papers.

"For the purpose of finally removing the impression, which you state exists widely over the country that the Railroad Administration is unfriendly to short line railroads, I shall issue appropriate instructions to all officers and employees of the federally controlled lines directing them to give fair, just and friendly consideration to short line railroads."

In addition to the 133 short lines which, up to the end of 1919, had signed the cooperative contract, 49 had applied for and were granted leave to file waiver of claims in return for the advantages of an allowance of free time on freight cars and the promise of reïmbursement for traffic diversions.† "The large majority declined to do so (to sign the contract) because they felt that it had serious legal defects and could not be enforced against the Government."**

*This has particular reference to the guaranteed rental or "standard return."

†Annual report, Division of Law, 1919.

***Railroads and Government*, E. H. Dixon, p. 132.

In addition to the forms of contract for Class 1 railroads and for the short lines, a special contract was prepared and executed by the Director General and the American Railway Express Company. That company was formed early in 1918 by the consolidation of the four principal competing express companies—Adams, American, Southern and Wells-Fargo. Subsequently the new company embraced practically all of the smaller express companies.

Prior to federal control each railroad granted a monopoly of the express traffic to one of the competing express companies. There were isolated instances in which a railroad had an express company as a subsidiary of its own. Each railroad made a contract with the company to which the express privilege was granted and endeavored, under the play of competition between the express companies, to obtain the best possible terms. The general practise was for the express company to collect or receive the express matter, load it into express or baggage cars at shipping points, care for it while en route and unload or deliver the shipments at destination. At large terminals the express company maintained its own organization and express messengers accompanied carload shipments. At small stations the express company paid extra compensation to railroad employees to look out for express company work and a similar plan applied to train baggagemen who acted for the express company in caring

for less-carload express shipments by baggage car. The railroad provided the cars and transported them in its express or passenger trains, and furnished the express company with necessary facilities at stations. The express company collected the revenues for the service, paid the railroad a stated percentage of gross receipts, and retained the remainder. The proportion paid to railroads ranged from 35% to 55%, with isolated cases outside of these usual limits.

When the railroads were taken over by the Government to be operated as one system under noncompetitive conditions, it was logical and inevitable that the express service should be similarly unified. Action toward that end was soon taken with the result already mentioned—the formation of the American Railway Express Company.

The new company then entered into an agreement with the Director General (the initiative having been taken by the Railroad Administration) under which the American Railway Express Company would conduct the express business upon all lines under federal control substantially as was done under private operation except that certain restrictions as to routing which had applied under competitive conditions were removed and the service was effectively unified. As compensation for the privilege the express company agreed to pay the Director General 50.25% of the gross revenues received for the transportation of express matter over the railroads under federal control. This percentage was the average paid by all of the express companies to all of the

railroads during the preceding 10 years. The remainder of the express earnings, after the payment of other expenses of the express company and a cumulative dividend of 5% on its capital stock of $30,000,000 (based on physical valuation), was to be divided between the express company, the Railroad Administration, and a guaranty fund, in accordance with an elaborate plan which was favorable to the Government.*

As no further reference to the express service will be made in this volume it may be noted here that the American Railway Express Company continued in existence after the expiration of federal control and that the arrangement under which a flat percentage of 50.25% gross receipts was paid to all railroads alike, instead of the former varying percentages according to bargaining power and competitive conditions, is still in effect (July, 1922). Obviously this is to the advantage of those roads which received less than 50.25% under pre-war conditions and to the disadvantage of those roads which received more. Negotiations are now under way for a revision of the individual contracts.

*Report of Director General to President, for first 7 months of federal control.

CHAPTER VI

POLICIES OF UNIFICATION

THE 26 months of federal control may be divided into 2 distinct periods in which the conditions differed fundamentally. The first period was from January 1, 1918 to the signing of the armistice. During that period and until January 11, 1919, Mr. McAdoo was Director General. The second period was from the signing of the armistice until the end of federal control on March 1, 1920. During that time (except for the first 2 months) Mr. Walker D. Hines was Director General.

The first period was one of intensive military activity. The sole thought was to administer the railroads as an effective agency of the army and navy. Officers and employees were spurred by motives of patriotism. The public cheerfully accepted limited railroad service and cordially cooperated with the Administration in its efforts to produce the maximum of the kind of transportation most needed in the war. The fact that the railroads were functioning effectively and were breaking all records of transportation efficiency compensated the shipping and the traveling public for their sacrifices, and encouraged railroad officers and employees to do their utmost. Wages had been raised substantially; the high cost of

living was not yet as disturbing a factor as it became later; and the general morale of the service was fairly satisfactory.

Almost immediately after the signing of the armistice, there came a marked slackening. The spur of patriotism disappeared. The common motive to excel was lacking. The game was over. The war had been won. The minds of both officers and men turned to their personal interests.

Early in January, 1919, the first of the protracted hearings on the return of the railroads was held by the Senate Committee on Interstate Commerce. Then began a country-wide discussion of the railroad problem and the formulation of the many "plans" for its solution. To add to the confusion the lid was lifted from the cauldron of dissatisfaction on the part of shippers and travelers. With the conclusion of military activity there came an insistent demand for a resumption of pre-war service and pre-war shipping privileges. A natural reaction set in against governmental administration. The states began to assert their rights and the shippers' organizations became active in their criticism. An agitation was started to restore the rate-making power of the Interstate Commerce Commission and a Congressional bill designed to bring it about failed only because vetoed by the President.

Coupled with these disturbing factors, the cost of living continued to mount. Railroad employees had expected prices to drop. The higher wage awards of the Railroad Administration were found to have less purchasing power than the pre-war wages. The spirit of unrest found expres-

sion in insistent demands for further wage increases. The appeal of patriotism could no longer be invoked, and the general feeling of discontent with economic conditions in all lines of business seriously undermined the morale of railroad service.

Observing the distinction between the characteristics of the first and the second year of federal control, attention will be directed first to a review of 1918, with particular reference to the methods adopted under the policy of unification and standardization. This policy was applied principally to the features of operation enumerated below.

Joint use of passenger and freight terminals.
Joint use of yards and engine houses.
Consolidation of car inspection forces.
Joint use of running tracks.
Joint use of motive power and cars.
Short-routing of freight.
Diversion of export traffic to southern ports.
Consolidation of city ticket offices.
Abolition of off-line offices.
Elimination of competitive activities.
Standardization of new locomotives and cars.
Simplification of inter-road accounting.
Standardization of operating statistics.

The Railroads' War Board had made considerable progress in arranging for the joint use of terminals, other facilities, and equipment, but the United States Railroad Administration went much further. The attention of the regional

directors was concentrated upon this feature of operation during the first few months of federal control and the Director General stressed it. The 1918 annual reports of the regional directors claim large savings in operating expenses by reason of unification of facilities, but these estimates of economies must be accepted with reservations. In many cases the apparent savings at one point were partly offset by additional expenses elsewhere.* In many cases, too, they were made at the cost of much inconvenience to the shipping and traveling public. On the whole, however, there were real net savings and, what was more important, the capacity of the roads as a national system to produce ton-miles and passenger-miles was increased.

The example best known to the public was the joint use of the Pennsylvania New York City terminal by the passenger trains of the Pennsylvania, Baltimore & Ohio, and Lehigh Valley roads. Such common use of the new terminal was not contemplated when it was designed, but the plan proved to be feasible and it resulted in better service to the public. In freight service one of the best examples was in Chicago. Its terminal district embraces an area of about 2,500 square miles. It is served by 40 railroads which at that

*The annual estimated savings through joint use of terminals, yards, and like facilities were estimated in 1918 as follows: Eastern region, $4,172,000; Allegheny region, $4,037,526; Pocahontas region, $1,495,603; Southern region, $2,182,260; Northwestern region, $4,888,993; Central Western region, $5,325,000; Southwestern region, $1,434,000; total $23,535,382. A substantial part of this gross saving was offset by increases in other costs.

time were interchanging about 40,000 cars daily. Plans were worked out under federal control by which the Elgin, Joliet & Eastern Railroad was used more extensively as a connecting link between the eastern and the western trunk lines for the handling of through freight not requiring icing, while perishable freight was concentrated on the Indiana Harbor Belt Line. Industries on the St. Charles Air Line were formerly served by the separate switching locomotives and crews of 19 railroads. The new plan provided that the Illinois Central forces should do all of the work for itself and for the eastern lines (with the exception of the Michigan Central); and the Burlington forces were to do all of the work for the western lines. Passenger trains of the Baltimore & Ohio and of the Pere Marquette between Pine Junction and Sixteenth Street were diverted to the Pennsylvania tracks in both directions, thus freeing the Baltimore & Ohio Chicago terminal of all passenger business with its retarding effect on the freight service, shortening the run of these passenger trains by 7 miles and their running time by 40 minutes.*

All of the regional directors in their 1918 annual reports gave imposing lists of instances of unification or consolidation of physical facilities. The Allegheny region alone reported 875 cases; the Southern, 140; and the Southwestern, 272. Most of these unifications were relatively unimportant individually, but they included practically all of the important terminals throughout the

*_Railway Age_, vol. 68, p.78, January 2, 1920.

country. The degree of unification, of course, had a wide range of difference, according to practicability. In some cases it was comprehensive; in other cases very slight. Where there were two or more engine houses of different corporate ownership it was found feasible in a few cases to close one or more of them and to concentrate the work in one. Such a plan worked well at Galveston. The separate car inspection forces maintained by the individual roads to protect their individual interests under private operation were consolidated into one joint force at a large number of interchange points. In some cases one freight station was used for the business of two or more roads and the stations from which the business was diverted were closed. At some points savings were made by having all of the switching service performed by one road where, under competitive conditions, separate switching service had been performed by all of the competing carriers.

The same principle was applied to the joint use of running tracks where such action was advisable. For example, Baltimore & Ohio trains between McKeesport and New Castle were diverted over the tracks of the Pittsburgh & Lake Erie and the Pennsylvania, where one locomotive could handle as many tons as five locomotives could handle between the same points on the Baltimore & Ohio. Coal and coke from the lower Connellsville region on the Baltimore & Ohio road were routed over the Monongahela, the Pittsburgh & Lake Erie, and the Pennsylvania lines to the

Pittsburgh district, thus releasing the Baltimore & Ohio lines for eastward-bound traffic, principally coal from the Fairmont district to seaboard. Or again, traffic which formerly had moved from the Baltimore & Ohio lines in the West Virginia coal regions and the Pittsburgh district via Baltimore and Philadelphia was routed via Rutherford and the Philadelphia & Reading road, thus keeping such traffic out of the congested districts at Baltimore.*

Between Pueblo and Denver, a distance of 118 miles, and between Wells, Nevada, and Winnemucca, Nevada, a distance of 185 miles, the single tracks of two separate railroads were operated as the double track of one railroad, thereby increasing their combined capacity.† A similar arrangement on a smaller scale was applied to paralelling tracks of the Boston & Maine and the Central Vermont in the upper valley of the Connecticut.

Between Oakland and San Francisco separate ferry services had been operated by the Southern Pacific, the Santa Fe, and the Western Pacific roads. As the ferry facilities of the Southern Pacific were ample to serve the traffic of the three roads, the passenger trains of the Sante Fe and of the Western Pacific were brought into the Oakland Mole, and their passengers used the ferries of the Southern Pacific.‡

The utilization of motive power was made much more effective through unified control. Surplus

*1918 Annual Report, Regional Director, Allegheny Region.

†Ibid., Division of Operation. ‡Ibid.

power on one road or in one region was quickly transferred to another road or region where a shortage existed.* When the shop facilities of one road were inadequate, or were overtaxed by locomotives in need of repairs, some of these locomotives were taken to other roads with greater shop capacity and there repaired. Baltimore & Ohio locomotives, for example, were repaired in shops of roads in the Northwest region.

In the case of freight cars, which had practically been pooled under the operations of the Railroads' War Board, the pooling under federal control was made much more complete. During the greater part of federal control the payment of car hire (*per diem* charges) as between roads in federal control was waived, and each road was instructed, as regards running repairs or shop repairs, to give the same care to cars of other roads as it gave to its own cars.†

The Car Service Section had complete control over distribution, and shifted the cars without regard to ownership to where they were most needed. In the process of distribution of empties, the cars were often dispatched in solid train lots as, for example, when they were urgently needed in the West early in the spring of 1918 for the movement of food for export. These trains of empties were arbitrarily routed via the roads which could handle them most expeditiously and

*The practise of transferring locomotives from one road to another road had been inaugurated by the Railroads' War Board.

†This plan did not work satisfactorily. It will be discussed further in reviewing the results of 1919.

with the least interference with loaded car movement. The normal car service rules, which provide that the burden of the empty movement shall be assumed by the road or roads which received the revenue from the loaded movement, were set aside. This policy naturally resulted in a somewhat higher percentage of empty car-miles to total car-miles, and caused distortions in the car performance records of individual carriers, but the losses were counterbalanced by a reduction in car shortage at the points where the traffic of vital importance originated.

Mention should here be made of the policy of dispatching solid trains of foodstuffs and other freight of similar character from the West intact to the seaboard. Though this is not an economical method of transportation (because the maximum economical weight of the train varies with the rate of the grades and the power of the locomotive, and these differ widely on individual railroads) the practise did much to expedite the movement of supplies then badly needed on the battle fronts.

The first general order issued by the Director General (No. 1, December 29, 1917) directed that shippers' designation of routes should be disregarded when freight might be moved with greater expedition or more efficiently by other routes. It provided also that traffic agreements between carriers were not to be allowed to interfere with expeditious movement. This has been called the policy of short-routing of freight. It was fre-

quently referred to by Mr. McAdoo in reports and public statements as an important reform instituted under federal control. In the writer's opinion the importance of this factor has been much overestimated. It is true that the annual reports of the regional directors contain references to large savings in car-miles. These, at very best, are estimates, and even if they were correct, the estimated savings were but a fraction of one per cent of the total car-miles. In practise it was found that the traffic suffered least delay when moved via the normal routes. A shifting of the load from the longer to the shorter route frequently found the latter under-equipped for the overload, and resulted in congestion. Savings based on estimated reductions in car-miles were in many cases entirely neutralized by the higher costs of moving the cars via the shorter and more congested routes.

To some extent the strain caused by the unusual volume of export freight traffic was lessened by the work of the Exports Control Committee. It consisted of a representative of the United States Railroad Administration, a major general representing the army, a rear admiral representing the navy, a steamship executive representing the Shipping Control Committee, and a traffic expert representing the Allies. This committee was created on June 11, 1918, for the purpose of determining the probable amount of freight to be exported for war purposes and to work out a plan for its most effective distribution through the several ports. As a result of its conferences, and in

cooperation with the Railroad Administration and the Shipping Board, a substantial portion of the export freight, principally for the Allies, which normally would move through the North Atlantic ports, was diverted to the South Atlantic and Gulf ports.

Another phase of unification, familiar to the public, was in the consolidated ticket offices. In more than 100 of the important cities in the country the "up town" selling of tickets, both railroad and Pullman, was concentrated in one office which took the place of a number of separate ticket offices in each city. In New York and in Chicago more than one consolidated office was found necessary, but in the other cities the single central city office was substituted for the separate offices of the local and "off-line" roads. At the same time all arrangements between the railroads and tourist or similar agencies were canceled. In all, 101 consolidated ticket offices were established. They took the place of 564 passenger offices which were in existence prior to federal control. In his report to the President, for the seven months ended July 31, 1918, the Director General estimated that the closing of the off-line agencies and the consolidation of ticket offices represented a yearly saving of $16,566,633, to which he added an item of $7,000,000 to be saved by the practical elimination of advertising, making a total estimated saving in the three items of $23,566,633.

CHAPTER VII

STANDARDIZING THE DESIGN OF EQUIPMENT

MUCH publicity was given to the Administration's policy of standardizing the design of locomotives and freight cars. Mr. McAdoo's statement that there were "2023 different styles of freight cars and almost as many different descriptions of locomotives,"* appealed to the public imagination, as did also his announcement that a committee of experts of the Railroad Administration had agreed upon 12 standard types of freight car and 6 standard types of freight locomotive of two weights each. Obviously the process of standardization would make the problems of new construction much easier and eventually would reduce the cost of maintenance. In 1918 the Director General ordered 1,430 locomotives and 100,000 freight cars of standard design.

Under the terms of the contract between the Director General and the railroad companies the Director General was required to secure the approval of the corporation before he could permanently assign any of the new standard equipment to that corporation. There was much opposition to the universal adoption of these standards and long drawn out controversies over the assignment of the new equipment to the individual

*Report to the President, for seven months ended July 31, 1918.

companies. The *Railway Age,* the leading technical railroad journal, devoted much space to criticism of the policy,* and much time and effort were expended by the spokesmen for the Administration in defending it.

An analysis of the conflicting views on the subject indicates, however, that the railroad companies had no quarrel with standardization as a principle. Practically all of the negative arguments attached to *the degree* in which the principle was applied. Many of the larger railroad systems, such as the Pennsylvania, the Union Pacific, and the Southern Pacific, had been following the principles of standardization for years, and the Master Car Builders' Association and the American Railway Association had made substantial progress toward standardization in freight car design. There was a natural resentment against the upsetting of these programs by the enforced adoption of new standards which had been somewhat hurriedly adopted by Administration experts of no greater professional standing than the experts of the larger individual systems, who had a more intimate knowledge of the peculiar local needs.

Many flaws may be picked in the details of the Government standards. It can easily be shown that the requirements of an individual road cannot

*There was, of course, strong opposition from manufacturers of special parts or appliances. The specifications for new equipment were so drawn as to exclude certain of these specialties and to favor others as, for example, in the case of friction draft gear for freight cars.

be efficiently met by any one of the twelve standard types of locomotive. On one road, for example, the lighter type of locomotive designed for slow freight service was not quite powerful enough to haul the train which the locomotive of local design could haul. The heavier type of standard locomotive, on the other hand, exceeded the capacity of the bridges. That road had to choose between a loss in train-loading efficiency with the lighter type of locomotive, or undertake an expensive program of bridge strengthening or rebuilding at a time when both labor and materials were scarce. If it accepted the second alternative it faced the fact that the additional capital expenditures for bridges would earn returns only on the heavier trains hauled by the relatively few new locomotives and could not avail itself fully of the additional capacity of its line until all of its own standard of locomotive were displaced by the heavier standard of the United States Railroad Administration.

In another case a road with heavy grades had worked out a design of locomotive which with a lighter type as a helper on the maximum grade gave a maximum of power utilization both on the minor grades with one locomotive and the major grade with two locomotives. In that case there was no possible combination with the new standards which would give the same degree of train-loading efficiency.

It was plain, therefore, that the Administration's locomotive standards were too few in number to meet all of the requirements of the different

physical and traffic characteristics of the 160 Class 1 roads in federal control. And it was equally plain that some compromise might profitably be made between a policy of arbitrarily fixing a few types to meet all conditions and a policy of individuality and regard only for local needs. Two or three times the number of types prescribed by the Administration would probably save nearly all of the advantages of standardization and at the same time would give each road the opportunity to select a type or types which it could use without loss of efficiency.

The case for the standardization of the freight car is stronger. Locomotives ordinarily are confined in service to the rails of the owning company. Freight cars are used in common under car service rules and the *per diem* rules agreement. They are repaired (with certain exceptions) on the road where the need of the repairs develops. The average freight car of an individual road is at home not much more than one-half of the time. Obviously if there is a common standard for the types of car used for the great bulk of the interchanged traffic, each road will be required to carry a much smaller stock of repair parts, and there will be a reduction in the time now lost by cars which are held while the repairing road is obtaining parts of special design.

Yet here, as in the case of locomotives, local traffic characteristics have an important bearing. The granger roads have found it advisable to design their box cars with a special view to the

requirements of the grain traffic which they originate. The roads serving the Michigan peninsula have found it necessary to consider the special requirements of automobile shipments. The railroads of Maine must look to the peculiar needs of the potato traffic. One type of box car cannot be ideal for all classes of traffic. Then, too, there is the debatable point of weight of frame and trucks. The standards of the Railroad Administration differed materially from those, for example, of the Southern Pacific. The Harriman Lines had been leaders in the movement toward standardization. Their freight car standards were the results of a very careful study of experts over a series of years. The officers of that company, therefore, quite naturally objected to the permanent acceptance of other standards prepared under war-time pressure by engineers whose qualifications were no greater than those of their own engineers and consultants.

The objections of the Southern Pacific are mentioned specifically because Chairman Kruttschnitt of that company, in discussing the subject with other railroad executives when the continuation of Railroad Administration standards was under consideration at the conclusion of federal control, made the point that the excess weight in the Railroad Administration standard box car over the Southern Pacific standard was not justified by traffic or engineering requirements, and that this excess weight meant a needless expense, not only in first cost, but also in train operating expenses because of the increase in the dead weight of the train.

CHAPTER VIII

ACCOUNTING AND STATISTICAL INNOVATIONS

THE transition from private to federal control, the separation of the accounts as between the corporation and the Government, and the provisions of the contract between the Director General and the railroad companies, necessitated a great deal of additional accounting work. Shortly after federal control began, and before the separation was made between federal and corporate accounting forces, the railroads were instructed to keep two sets of accounts—one reflecting federal transactions, the other reflecting the affairs of the railroad company.* When the federal and corporate forces were split, the former was concerned only with the federal accounts; but very heavy additional burdens were placed upon the accounting department by the special accounts and statistics required by the Director General, the Division of Accounting, the Division of Capital Expenditures, and other departments of the Administration. In July, came still further burdens, from the order requiring the standardization of operating statistics in greater detail than had been customary on the majority of roads.

As an offset to these additional burdens, several innovations were ordered which had the effect

*General Order No. 17, April 3, 1918.

of reducing the normal accounting requirements pertaining to inter-road transactions. Since the policies of unification, diversion of traffic, pooling of freight cars, and many other practises tended to destroy the normal relation of operating expenses to operating revenues of an individual road, several accounting short-cuts were authorized. While the diversion of traffic and the unification of facilities and equipment might distort the records of performance and earnings of an individual railroad, the Government was primarily interested in the net results for all of the roads as a national system. It was not particularly interested in the absolute accuracy of the accounts of an individual road as a unit or in its relation with other roads. It will be shown later that the operating efficiency of the individual units could be determined by the new system of operating statistics.

The first step in the simplification of revenue accounting was the adoption of the universal interline waybill.* The plan provided that all freight moving as through shipments over the rails of two or more railroads was to be billed through from point of origin to destination *regardless of the absence of joint rates.* This method eliminated a great deal of re-billing at junction points, reduced the delay to freight on that account, and simplified revenue accounting.

* General Order No. 11; March 16, 1918.

Then came the instructions* to discontinue the technical and arithmetical checking of bills as between roads in federal control. This change was meant to apply particularly to the tens of thousands of inter-road bills each month for freight claims, car repairs, equipment rents, joint facilities and the like, and the statements pertaining to the settlement of joint revenues on interline freight and passenger traffic. The billing road was enjoined to use care in the preparation of the bill and the debtor road was obliged to assume its technical and arithmetical accuracy.

The next step** provided simplified bases for the apportionment of interline freight revenue. Instead of continuing the former plan under which each road determined from the waybill records the balance due it from each road and the amount of its indebtedness to each road, the debit or credit balances as between roads were to be based on what were termed "road to road per cents." These per cents were to be computed for each route from the records of 1917. In effect the new plan provided for a division of joint freight revenues as between carriers in the same proportions that such revenues on interline freight traffic were divided in the year preceding federal control. Later on a "short cut" was authorized for the simplification of interline passenger revenues.†

A further reduction in accounting work was authorized on June 12‡ when accounting for freight

*General Order No. 20, April 22, 1918.

**General Order No. 21, April 22, 1918.

†General Order No. 32, June 29, 1918.

‡General Order No. 31, June 12, 1918.

car hire (*per diem*) was discontinued as between roads in federal control. Simplified bases were provided also in the same order for the making of bills for joint facilities, and under date of October 5 a plan for reducing the accounting work connected with the exchange of bills for repairs to equipment was made effective.*

Under the rules of the Interstate Commerce Commission the accounting practises of the railroads have been standardized for many years. To a very limited extent this standardization applied to the statistics of performance—locomotive-miles, train-miles, car-miles, ton-miles, and passenger-miles. But no steps had been taken to bring about uniformity in the field of operating statistics. Each road had gone its own way in developing the reports which were designed to show the efficiency of the various operating activities and to reflect unit costs.

The need for uniformity in this field as well as in the field of accounting was realized when an attempt was made during the first three months of federal control to put together a composite picture of operating results from the large number of special reports which had been sent to the Director General at his request. There was so much diversity in the content of the reports and in the bases used that it was impracticable so to combine the figures as to show the results for a region or for the railroads as a whole.

To meet the needs an Operating Statistics Section was organized early in May and, effective

*General Order No. 47, October 5, 1918.

August 1, a system of standardized operating statistics was promulgated. While the new plan was designed primarily to supply the central administration and the regional directors with the necessary information for each road and each region, the forms were drawn so as to be equally valuable for intra-railroad purposes. As a result the complete statistical indices of performance and operating efficiency were made available to the operating officers of all railroads and to the public, as well as to the Railroad Administration, without the former uncertainties and qualifications as to bases and methods. The operating officers were furnished with much more information than they had ever before had concerning neighboring roads with which they could fairly make comparisons, and in the majority of cases the new reports gave them more information concerning their own roads than theretofore had been available to them.*

*See *Annals of the American Academy of Political and Social Science,* November, 1919, "The Accomplishments of the United States Railroad Administration in Unifying and Standardizing the Statistics of Operation," by present writer. The article is reprinted in full in the Appendix.

CHAPTER IX

PASSENGER AND FREIGHT SERVICE IN 1918

WITH the United States Railroad Administration pledged to the purpose of operating the railroads so that they would assist most effectively in war, it was inevitable that there would be a curtailment in service for civilian travelers and limitations upon the transportation of non-essential freight.

One of Mr. McAdoo's first public statements as Director General dealt with the reductions in passenger train service. It was dated January 5, 1918, and read as follows:

"An important change in the passenger train service on the eastern roads goes into effect Sunday, January 6. I have consented to this change because it is imperatively necessary that passenger travel shall be reduced as much as possible during the present serious emergency which confronts the people in the eastern section of the country. By elimination of unnecessary passenger train service, much motive power, skilled labor, track and terminal facilities are released for the handling of coal and food and other supplies essential to the life of the people as well as to the successful prosecution of the war. Every patriotic citizen can directly help the Government in clearing up the present unsatisfactory situation on the railroads by refraining from all unnecessary travel at this time.

"The breakdown in passenger service of the various railroads in the East has not made a pleasant impression on the public, but it must be borne in mind that the railroad companies in the East are still seriously congested with an unusual amount of freight traffic, the movement of which is more vital to the country than the movement of passengers, and that the weather conditions for the past two weeks have seriously impeded railroad operations."

During the summer of 1917 the Railroads' War Board had made substantial reductions in passenger train mileage. It was estimated that the curtailed service meant an annual saving of 20,000,000 train-miles. The Director General's cuts went much deeper. In May, 1918, he approved a drastic rearrangement of the service west of Chicago. The reductions were estimated to save 11,728,000 passenger train-miles per year. They were accomplished by abandoning duplicate service between Chicago and the Pacific coast cities and assigning to the short and direct routes to each city the fastest through service. Under this plan the Santa Fe was to be the preferred route to Los Angeles; the Chicago & Northwestern, the Union Pacific, and the Southern Pacific to San Francisco; the Burlington and the Northern Pacific to Portland, and the Chicago, Milwaukee & St. Paul to Seattle. Similar plans were adopted in other sections of the country as, for example, between Chicago and the Twin Cities, between Chicago and St. Louis, and between New York and Florida points. In the aggregate the savings in passenger train-miles during the first seven months of federal control were at the rate of 67,290,482 per year. The Administration

frankly attempted to discourage civilian travel; but its appeals apparently made little impression upon the public.

One of these appeals was made in a public statement by Theodore H. Price, of the Director General's personal staff. After calling attention to the drastic curtailment in passenger train service in Great Britain, and emphasizing the extreme importance of meeting the heavy transportation demands of troops and materials, Mr. Price stated:

"Those who travel unnecessarily are therefore needlessly overtaxing the railway service and are making themselves and others who must travel uncomfortable, and are really impeding the prosecution of the war. To 'Stay at Home' has now become a patriotic duty and everyone who feels disposed to 'take a trip' these days ought to seriously ask himself whether it is necessary or cannot be postponed before he buys his ticket. If this habit of self-examination becomes general the congestion of passenger traffic will disappear, for there are lots of journeys that are a waste of both money and time, and 'Home Sweet Home' is a pretty good and restful place after all. Those who feel an irresistible desire to roam may be able to control themselves if they will re-read 'Prue and I,' the charming story in which George William Curtis describes the imaginary journeys of an old bookkeeper and his wife who, being unable to afford the cost of travel, found exquisite pleasure in imagining that they were visiting the places described in the books of celebrated travelers." (*Railway Age,* September 6, 1918, p. 427)

Notwithstanding these appeals and the higher passenger rates, the volume of passenger traffic grew steadily and during the two years of federal control it exceeded all previous records. The

Director General's report to the President under date of February 28, 1920, states that the passengers carried one mile in 1917 were 39,361,369,062; in 1918, 42,498,248,256; and in 1919, (partly estimated) 46,200,000,000. These figures include troop movements, but military traffic does not account for all of the increases in 1918 and 1919. It should be noted further that the passenger-miles of 1917 also included heavy troop movements in the latter part of the year.

In addition to the curtailment in passenger train mileage there was a drastic cut in the number of parlor cars and dining cars, as well as a reduction in the number of sleeping cars. The general policy was to run only the number of sleeping cars regularly assigned to each train and not to put on extra cars and run extra train sections except under unusual circumstances. Observation cars and Pullman smoking and buffet cars were practically eliminated, as were many other "frills" connected with the extra-fare trains.

From the viewpoint of the public, the consolidated ticket offices had certain advantages. The traveler could purchase tickets, arrange for Pullman car reservations, obtain information, and secure other services at one central point for any or all of the routes available for his intended trip. In case the sleeping cars via one route were sold out, he could change to another route without going to another office. Tickets for points served by two or more railroads were honored via any route. On the other hand there were certain disadvantages. The very size of the office and of

the volume of business transacted required a much larger number of clerks than had ever worked together in one ticket office. It took months to weld them into a smooth-working organization. At the hours of the peak load there was much standing in line, and trying delays. In a few offices, such as those in New York and Chicago, there was a subdivision of the office organization by roads or sections of the country. In the majority of cases, however, there was no such subdivision. A ticket clerk whose previous experience had been confined to one road or section had to become familiar with all roads or sections served by that office. This took time, and in the process there was a loss in the quality of service. The defects in the service of the consolidated ticket offices grew less obvious as the organization "found itself," and the clerks became more familiar with their broader range of work, but the typical traveler missed the former stimulus of competition between separate passenger-soliciting forces with their intimate knowledge of their own roads and the territories served, and their painstaking efforts to excel in personal service.

While the man who traveled was asked to make substantial sacrifices in the interest of the expeditious movement of troops and of war materials, it is doubtful if he contributed any more to the common cause than the average shipper of freight not included on the priority lists. The traffic for export or for other war purposes,

which moved under priority orders, was such a large part of the total that the shipper of freight outside of the priority list—the man who was trying to carry on "business as usual"—had much to contend with. To keep a complete control of the freight situation and avoid congestions such as those of the last two or three months of 1917, the embargo method was so frequently used that the ordinary shipper was kept "guessing" as to whether his shipment would be accepted at all and if accepted when it would reach its destination.

The permit system was adopted under these circumstances, and had much to commend it. It was applied primarily to export freight, but to a limited extent was applied also to domestic traffic destined to points in the congested areas. The system had much to do with the reduction in the accumulation of freight at seaboard and prevented further blockades. Under the permit plan a shipment for a seaport or other designated destination would not be accepted by the railroads at the shipping point until a permit was issued, and the permit would not be issued until it was known that the consignee was prepared to receive the shipment. Under former conditions the shipper, in the absence of a specific embargo, could deliver his freight to the railroad regardless of the ability or inability of the consignee to take the freight on its arrival at destination. The new method in effect controlled the flow of traffic at the source and prevented accumulations of cars at destination, particularly at the seaboard. It proved of such value that the railroad com-

panies, on the return to them of their lines, retained it as regards export traffic.

An important innovation was the "Sailing Day Plan"; better called the shipping day plan. It was applied to the movement of less than carload freight and was designed to bring about the better utilization of freight cars by securing a heavier average load per car. Schedules were worked out from the principal less than carload shipping points and freight of that class for certain destinations or certain transfer points was held for through cars which would run on specified days of the week. The daily loading of this freight to transfer stations, when the tonnage for one destination did not justify a through car, had caused congestion at many transfer points. Under the new plan the assembly of less than carload shipments into larger carload units reduced the number of transfers and saved some of the delay to freight.

Yet the plan was not generally approved by shippers, as it gave certain distributing centers an advantage over other competing distributing centers to common markets when the traffic from the first was greater than that from the second and therefore justified more frequent service.

The abolition of the off-line freight agencies took away a form of service which had not been appreciated fully until the offices were closed. While primarily freight soliciting agencies, they acted also as bureaus of information for the shipping public and as such were of much convenience to the shippers. The tracing of shipments was a real value. The New York representative of a

western road would obtain reports of cars destined to or coming from points on his line and on request would keep the shippers informed of their location and probable delivery or arrival. The offices were clearing-houses for various kinds of commercial information, and the soliciting forces naturally did their best to serve their patrons and create the good will so valuable in traffic relations. When it was made clear to the Railroad Administration that this feature of the off-line agency service was a real loss to the shippers, an attempt was made to give similar information in central freight information bureaus in important centers, but the substitute was regarded by the shipping public as poor.

CHAPTER X

RATES IN 1918

IT was clearly apparent when federal control began that the existing rate scale would not yield sufficient revenue to enable the Government to earn the guaranteed rental. The power of the Director General to establish rates was not determined until the passage of the Federal Control Act. That power was defined in Sections 8 and 10.

"That the President may execute any of the powers herein and heretofore granted him with relation to federal control through such agencies as he may determine, and may fix the reasonable compensation for the performance of services in connection therewith, and may avail himself of the advice, assistance, and cooperation of the Interstate Commerce Commission and of the members and employees thereof, and may also call upon any department, commission, or board of the Government for such services as he may deem expedient. But no such official or employee of the United States shall receive any additional compensation for such services except as now permitted by law.

* * * * * *

"That during the period of federal control, whenever in his opinion the public interest requires, the President may initiate rates, fares, charges, classifications, regulations, and practises by filing the same with the Interstate Commerce Commission, which said rates, fares, charges, classifications, regulations, and practises shall

not be suspended by the commission pending final determination.

"Said rates, fares, charges, classifications, regulations, and practises shall be reasonable and just and shall take effect at such time and upon such notice as he may direct, but the Interstate Commerce Commission, shall, upon complaint, enter upon a hearing concerning the justness and reasonableness of so much of any order of the President as establishes or changes any rate, fare, charge, classification, regulation, or practise of any carrier under federal control, and may consider all the facts and circumstances existing at the time of the making of the same. In determining any question concerning any such rates, fares, charges, classifications, regulations, or practises or changes therein, the Interstate Commerce Commission shall give due consideration to the fact that the transportation systems are being operated under a unified and coordinated national control and not in competition.

"After full hearing the commission may make such findings and orders as are authorized by the act to regulate commerce as amended, and said findings and orders shall be enforced as provided in said act: *Provided, however,* That when the President shall find and certify to the Interstate Commerce Commission that in order to defray the expenses of federal control and operation fairly chargeable to railway operating expenses, and also to pay railway tax accruals other than war taxes, net rents for joint facilities and equipment, and compensation to the carriers, operating as a unit, it is necessary to increase the railway operating revenues, the Interstate Commerce Commission in determining the justness and reasonableness of any rate, fare, charge, classification, regulation, or practise shall take into consideration said finding and certificate by the President, together with such recommendations as he may make."

It will be observed that the Act gave the President the authority to initiate rates and regulations

by filing the tariffs with the Interstate Commerce Commission, but the Commission was shorn of its power to suspend such rates pending final determination of their justness and reasonableness. The Commission was authorized to hold hearings if complaints were made and, after such hearings to make such findings or orders as are authorized by the Interstate Commerce Act; but the Commission was also required to take into account the fact that the transportation systems were being operated under a unified and coordinated control and not in competition. It was provided further that when the Director General certified to the Commission that increased revenues were necessary to defray the expenses of federal control and operation, the Commission should take such finding and certificate into consideration in determining the justness and reasonableness of the Director General's changes in rates and regulations.

The Federal Control Act which contained this authority was not approved until March 21, 1918. Steps were taken at once to determine the extent and the form of the necessary increases. On May 25 an order was issued which in general terms horizontally increased freight rates about 25% and advanced the passenger rate to 3 cents per mile. Where the existing rate was higher than 3 cents per mile no increase was ordered. Suburban fares were increased 10%. The passenger fare increase as a whole was estimated to be about 20%. A surcharge of ½ cent per mile

for passengers using Pullman cars was also ordered. These were the only general rate increases initiated by the United States Railroad Administration, although numerous adjustments in individual rates were made later, most of them resulting in reductions rather than increases.

To provide an effective organization for the adjustment of complaints concerning freight rates and regulations, 24 local and 3 general freight traffic committees were created, upon which the public had representation. Proposed changes were passed by the local committee to the general committee and then to the Director of Traffic, with a copy to the Director of Public Service. Every change had to be approved by the two Directors, or, if they divided in opinion, the Director General was called upon to decide. The public representatives on these committees were usually selected by the shippers' organizations. Individually their votes had equal weight with the votes of the individual railroad members, but the public members were in the minority.* The railroad members, therefore, controlled the majority of recommendation, but the minority influence was recognized. The arrangement did much to maintain amicable relations between the shipping public and the Railroad Administration during the trying period of the war.†

*In 1919 the organization was changed so as to give shippers equal representation in number.

†For passenger rate matters three general committees were formed, but on these the public was not represented.

On one important task, begun a long time ago, substantial progress was made. For years the Interstate Commerce Commission had been pressing for action which would bring about uniformity in freight classifications, and the railroads had been struggling with the problem. As between the Official, Southern, and Western classifications there had been many variations in the classification of articles and in the regulations which applied to the classification. Under the unification brought about by federal control there appeared to be an excellent opportunity to secure the necessary compromises between the railroads themselves and between shippers and railroads. The fact that any plan of uniformity meant losses to some of the railroads if the lowest classification in any territory were adopted uniformly and, conversely, meant higher freight charges to the shippers if the highest classification were adopted, had been the principal stumbling block in the path of progress. The Railroad Administration set about with vigor to achieve the desired uniformity, but nothing definite was accomplished in 1918. In 1919, however, under Mr. Hines' régime as Director General, a consolidated classification was presented to the Interstate Commerce Commission; Mr. Hines did not care to initiate it himself without the prior approval of the Commission. Vigorous opposition on the part of shippers developed at the hearings, and the Commission declined to approve the plan of re-classification because it appeared to have the effect of unduly increasing rates—the upward adjustments exceeding those which were downward.

The Commission, however, gave its approval to the unification of the rules. Though this in itself was an important step forward, it is to be regretted that the golden opportunity presented by the war period and federal control to solve an extremely troublesome problem was lost. The difficulties which lie in the path of a complete solution to the classification problem are now as great as they were before federal control.

CHAPTER XI

LABOR POLICIES DURING FIRST YEAR OF FEDERAL CONTROL

THE relations between the railroad companies and their employees during the latter part of the year 1917 were badly strained. The scarcity of labor and the keen competitive bidding of munitions, shipbuilding and other plants, led to very substantial increases in the general scale of wages in those industries. Railroad employees had received no general increases in 1917. Their leaders had made insistent demands for substantial advances. The justice in a demand for an upward revision in the scale of compensation was recognized by the railroad executives, but they differed from the labor leaders as to the degree of increase warranted by the abnormal conditions. Besides, the railroad executives held to the view that until the Interstate Commerce Commission had acted favorably upon the pending applications for rate increases the companies would be financially unable to assume the burden of higher payroll costs.

The argument of "inability to pay" a higher wage scale did not appeal to railroad workers. They felt the pinch of higher living costs and were well informed as to the inflated pay envelops of workers in war industries. Just a year previously

they had seen the President of the United States and Congress forced to do the bidding of the railroad labor leaders when the Adamson Act was passed. Railroad labor as a class had acquired a new conception of their concerted power and their leaders acted with aggressiveness and assurance in their negotiations with the railroad companies.

Such was the situation on the eve of federal control of railroads. It has already been pointed out that the acute labor situation was one of the reasons which justified the President in taking over the railroads for Government operation during the war crisis. A grave conflict between labor and the railroads appeared to be inevitable.

The demands of the employees for higher compensation, which if granted would have increased the total railroad payroll expense by more than $1,000,000,000 per year, received the immediate attention of Director General McAdoo. Assurances were given the labor leaders that the whole subject would be reviewed sympathetically and that such increases as were granted would be made retroactive to January 1, 1918. This had a quieting effect upon the men and acted as a brake upon the tendency of railroad employees, particularly those in the mechanical and maintenances branches of the service, to transfer to the better paying positions in the war industries.

On January 18, 1918, a Railroad Wage Commission was appointed by the Director General. This commission was composed of Franklin K. Lane, (chairman) then Secretary of the Interior

and formerly a member of the Interstate Commerce Commission; Charles C. McChord, of the Interstate Commerce Commission; William R. Willcox, formerly chairman of the Public Service Commission (First District) of New York; and J. Harry Covington, Chief Justice, Supreme Court of the District of Columbia. They were asked to "make a general investigation of the compensation of persons in railroad service, the relations of railroad wages to wages in other industries, the conditions respecting wages in different parts of the country, the special emergency respecting wages which exists at this time owing to war conditions and the high cost of living, as well as the relation between different classes of railroad labor."*

Having thus arranged for a thorough and unbiased study of the whole question of railroad wages, the Director General proceeded in other ways to strengthen his relations with labor. On February 9, 1918, a Division of Labor was created with W. S. Carter as director. To serve in this position Mr. Carter was granted leave of absence by the Brotherhood of Locomotive Firemen and Enginemen, of which he was president. The sympathetic viewpoint of the Director General and of the Director of Labor are clearly stated in the introductory section of the 1918 annual report of the Division of Labor, from which the following paragraphs are quoted in full:

"One of the principal purposes of the creation of the Division of Labor was to provide means whereby the controversies that constantly arise between railroad of-

*General Order 5, January 18, 1918.

ficials and employees would be promptly and equitably adjusted. An inability to adjust these controversies under past practises resulted in strikes, threatened strikes, or a constant unrest among employees to the extent that the efficiency of the service had greatly diminished at the time that the roads were taken over under federal control.

"It is but fair to say that neither the operating officials nor the employees were entirely to blame for so undesirable a situation. While on some roads there had never been a liberal policy toward employees of certain classes, a study of past relations will reveal the fact that not so many years ago the labor policy of a railroad was developed entirely by the operating officers. At that time, committees of employees, with the knowledge that their immediate operating officers had the authority to grant wage increases, revise wage agreements, and adjust personal grievances, entered into negotiations with their respective officials with an open mind and with the belief that if evidence and argument could be presented that would prove their contentions the operating officials of the roads would at least grant some relief from the conditions of employment against which complaint was made.

"In these days wage increases were granted from time to time, wage agreements were revised so as to include rules more favorable to employees, and personal grievances arising out of the administration of discipline were disposed of usually without a strike or a threat of a strike.

"It is alleged by employees that with the concentration of financial control of the railroads, either by groups or districts, operating officials lost all authority over the labor policies upon the respective railroads with the result that it was alleged that the operating officials of a railroad were no longer permitted to exercise their own judgment in disposing of these matters.

"With the creation of 'general managers associations' covering a comparatively large territory came 'district movements' by employees for the adjustment of wage matters.

"During the two or three years antedating federal control of the railroads an alarming situation was created, in that the employees' organizations as a whole and through federations, found themselves confronted with similar federations on the part of the railroads, the roads being represented by conference committees, and the conference committees being subordinate to 'advisory committees.' It was alleged by employees that these conference committees of all of the principal railroads in a district were not permitted to grant the demands of employees or even to make favorable compromises without the consent of the advisory committee. The advisory committee, it is alleged was the agent of the great banking institutions that control the financial policy of all the railroads.

"Arbitrations have been resorted to in the latter years in these district movements, with the result that employees reached the conclusion that an arbitration award depended entirely upon the frame of mind of the neutral arbitrator. Persons selected to perform this function were liberal in their awards in accordance with the liberality of their minds, when appointed upon such arbitration boards.

"There seems to have been a public opinion that any man, even indirectly connected with labor, would be unqualified to act as a neutral arbitrator, with the result that most estimable gentlemen who had never had any connection with, and who had little knowledge of, labor conditions were called upon to act as umpires in these great contests. It was alleged by the employees that usually these arbitrators, having no technical knowledge of wage schedules, often made awards that were difficult of interpretation, if they did not, in fact, bring about conditions the very opposite to that intended by the neutral arbitrator. It also became apparent that in the application of the arbitration award, the officials of a railroad were the sole administrators thereof, with the result that after employees had been led to believe that an arbitration award brought them

much relief, it was applied in a manner that 'took away from them more than had been given them.'

"Later, provisions were made for submitting controversies over the application of an arbitration award back to the arbitration board, or to some other umpire, but this resulted in a continuation of controversies over a period of two or three years.

"It may be truthfully said that at the time the railroads passed under federal control, because of these vexatious contentions, the morale of railway employees had sunk to a low degree. In many instances there was an entire absence of esprit de corps, so necessary for efficient operation.

"It was with the knowledge of this alarming situation, and with a determination to restore harmonious relations between employees and the railroads, and thereby increase the efficiency of the railroads, that the Division of Labor of the Railroad Administration was created."*

During the first three months of 1918 the Lane Commission on Railroad Wages held hearings at which testimony was given by representatives of every class of employee, railroad officials, and outside experts. The Commission's report and recommendations, dated April 30, 1918, were not made public until late in May. Then its recommendations, with few exceptions, were adopted by the Director General and made the basis for General Order 27, dated May 25, 1918, promulgating higher wages and establishing the basic eight-hour day.

*The purpose of this lengthy quotation is merely to show the attitude of mind of the Railroad Administration on the relations between the companies and their employees. It is not necessary here to discuss the accuracy or the fairness of the premises. There is, in fact, no substantial basis for the allegation that a group of financiers controlled labor policies to the extent of tying the hands of the operating officials. Nor is there any logic in condemning combinations of employers when no more effective combination of labor than the railroad brotherhoods can be found.

These increases were based upon the wage rates in effect in December, 1915. Specific amounts were to be added for each class of service and for each grade of employee. In case the rate for a position had been advanced in 1916 or 1917, such advances were to be considered as a part of the 1918 advance. The Lane Commission went back to 1915 as a base because such advances as were made by the companies in 1916 and 1917 "were not in any way uniform, either as to employments, or as to amounts, or as to roads, so that one class of labor benefited much more than another on the same road, and as between roads there was the greatest divergence. The situation had been dealt with as pressure made necessary, and naturally those who, by organizations or through force of competition, could exert the most pressure fared the best."*

The Commission assumed that 1915 might be regarded as a much fairer index to the normal relationships than either 1916 or 1917, both of which had been disturbed by war influences. Upon the 1915 base they built a superstructure to fit the changed economic conditions in 1918. The advances were greatest in degree for those in the lower grades of service and the percentages of increase tapered off as the higher grades were reached, stopping entirely with positions paying $250 per month. Tables were provided to show the application of the increases to monthly, daily, hourly and piece-work rates. It is unnecessary here to go into detail further than to illustrate the principle by giving a few examples to show

*Report of the Lane Commission.

its application to monthly rates. An employee receiving $45 or less in 1915 was awarded an increase of $20 or about 43%; $60 men received $24.60 or 41%; $80 men received $32.70 or 40.87%; $100 men received $31.60 or 31.29%; $150 men received $24.25 or 16.17%; $200 men received $16.75 or 8.375%; and those who had received amounts ranging from $240 to $249 were awarded just enough to bring the new rate to $250.

The Lane Commission was impressed by the evidence tending to show that a large proportion of railroad workers were paid relatively low wages. The following striking comment appears in the report:

"It has been a somewhat popular impression that railroad employees were among the most highly paid workers, but figures gathered from the railroads dispose of this belief. Fifty-one per cent of all employees during December, 1917,—that is, more than a million employees—received $75 per month or less, and 80% received $100 per month or less. Even among the locomotive engineers, commonly spoken of as highly paid, a preponderating number received less than $170 per month, and this compensation they have obtained by the most compact and complete organization, handled with a full appreciation of all strategic values.

"Between the grades receiving from $150 to $250 per month there is included less than 3% of all the employees (excluding officials) and these aggregate less than 60,000 men out of a grand total of 2,000,000.

"These, it is to be noted, are not pre-war figures. They represent figures after a year's war, and two years of rising prices. And each dollar now (April 30, 1918) represents in its power to purchase a place in which to live, food to eat, and clothes to wear, but 71 cents as against the 100 cents of January 1, 1916."

Among the pending demands of the labor leaders referred to the Lane Commission for consideration was that of a universal eight-hour day* and punitive rates for overtime. On these points the Commission recommended that no changes should be made—at least not until a further exhaustive study could be made. The Commission feared that experiments with a shorter working day at that time might lessen the tons of freight hauled and the number of passengers carried when the urgent and serious necessities of war compelled sacrifices from all, and they feared also that the adoption of any plan which would prevent the Government from working its men as long as they had been in the habit of working under private employers would be to take advantage of the grave war necessities of the Government and embarrass it in carrying forward essential operation of the war at a time when the need of service was never greater and ability to call in outside men was seriously impaired.†

Notwithstanding the Commission's recommendations on this subject, Director General McAdoo was convinced in his own mind that further study was unnecessary, and he established the eight-hour as basic for all classified railroad workers. Not until later (Supplement 4 to General Order

*The Adamson Act of 1916 established the basic eight-hour day in train, engine and yard services only.

†Preamble to General Order 27, May 27, 1918.

27, July 25, 1918) did he recognize also the principle of punitive rates for overtime. General Order 27 provided:

"The principle of the basic eight-hour day is hereby recognized. Where employees are paid upon a daily or monthly basis the new compensation herein established will apply to the number of hours which have heretofore constituted the actual day's work. For example, where an actual day's work has been 10 hours, the new compensation will cover the 8 basic hours and 2 hours overtime. Additional overtime will be paid pro rata."

In other words, an employee who had received $4 per day for 10 hours, was granted an increase of 30% in the daily rate, or $5.20 per day *for 8 hours,* as against $4 per day *for 10 hours.* If under the new rates and rules he was obliged to work 10 hours he would receive $5.20 for the first 8 hours and 2 hours overtime at the rate of one-eighth of $5.20 for each hour, making the total compensation $6.50. His actual increase, therefore, was 62.5% *for the same number of hours.* On a man-hour basis the general substitution of the eight-hour day for the ten-hour day meant an increase of 25% in the rate per hour and in the total payroll expense of the employees affected.

It was further specified in General Order 27 that where women were employed to do the same class of work as men they should be paid the same rate as men. When the call of military service, and the attractions of work in war industries, began seriously to deplete the ranks of railroad workers in 1917 and 1918, women were employed extensively on work theretofore done almost ex-

clusively by men, such as cleaning engines, tending crossings and doing certain grades of shop and track maintenance. They were also employed to some extent as ticket sellers. On January 1, 1918, the railroads employed 60,555 women, most of them in clerical or semi-clerical work. On October 1, 1918, the total number had increased to 101,296. Prior to the issuance of General Order 27 women had been paid rates slightly lower than men.

In the South, where colored men had been employed extensively as firemen and trainmen, they had been paid rates which were lower than those paid to white men in those classes of service. General Order 27 required that colored men should receive standard rates of pay. It may be noted, however, that this provision was not to be interpreted as a recognition of social equality.* Essentially it was a concession to the firemen's and trainmen's brotherhoods. Neither organization admits colored men to its membership. Naturally the brotherhoods prefer that all firemen and trainmen should be eligible. The employment of negroes had the effect of reducing the membership of the unions. One of the most effective methods of eliminating the colored men was to require the railroads to pay the same rate of wages as white men. Without the advantage of the colored man's willingness to accept a lower wage scale, the roads would not be so anxious to

*Nor was equal pay for women a recognition of equal ability. The object was to restrain the managers from continuing the employment of women to the exclusion of men when conditions became normal.

retain them in service when they could employ white men for the same wages. While the negroes ordinarily are efficient as firemen or trainmen (particularly as firemen) they are not eligible for promotion to the positions of engineer and conductor. As a result the railroads which employ colored men as firemen or trainmen are prevented from giving to the white employees of the two classes the same relative training in minor positions that the northern roads can give to fit the younger men for the more responsible positions of engineer and conductor.

In addition to the promulgation of new rates of pay and new rules, General Order 27 created a new tribunal called the Board of Railroad Wages and Working Conditions. The board was composed of six persons, three representing management and three representing the classified employees. The management members consisted of a general manager, a superintendent of motive power and a division engineer. Each of the three employees' representatives was an executive of a railroad labor union.

The duties of the board, as defined by the order, were "to hear and investigate matters presented by railroad employees and their representatives affecting:

"1. Inequalities as to wages and working conditions whether as to individual employees or classes of employees.

"2. Conditions arising from competition with employees in other industries.

"3. Rules and working conditions for the several classes of employees, either for the country as a whole or for different parts of the country.

"The board shall also hear and investigate other matters affecting wages and conditions of employment referred to it by the Director General. The board shall be solely an advisory body and shall submit its recommendations to the Director General for his determination."

General Order 27 had hardly been distributed when it aroused a storm of protest from those who were disappointed in what it gave them in higher compensation. Many employees were dissatisfied because increases which had come to them in 1916 and 1917 were taken into account and deducted from the increases provided by the order for men in similar occupations who had not been advanced between December, 1915, and January 1, 1918. But the greatest objections came from the shop crafts.

The board's first hearings were devoted to the complaints of the shop crafts. Later they heard complaints from maintenance of way men, common labor, telegraphers, signalmen, and stationmen. As a result of the board's recommendations, the Director General issued a substantial number of supplements, amendments, addenda and interpretations to the original order. During 1918 the principal supplements were:

Supplement 4, July 25, 1918, established a uniform classification and advanced the minimum rate of the various shop crafts. For Class A mechanics, for example, the original order specified a minimum rate of 55 cents per hour. The

men demanded 85 cents. Supplement 4 granted them an increase of 13 cents to 68 cents.

Another very important concession was made to the shop employees—the first of its kind by the Railroad Administration. The principle of punitive rates for overtime was established. For all hours in excess of eight, and for all hours on Sundays and holidays, the men were to be paid time-and-one-half. The classification, which defined in detail the work of each class and grade of employee, and the new rules applicable to such classes, were the basis for many of the classifications and rules which were woven into the national agreements executed in the fall of 1919.*

Supplement 4 also sounded the death knell of piecework. While higher rates were granted to workers paid by the hour no change was made in the piece-work rates. Piece-work men were guaranteed the new hourly minimum rates, as was the case before the supplement was issued, but as the hourly rates had been increased 24% to 29% by the supplement, without a corresponding increase in piece-work rates, the piece-work men were obliged to increase their production 24% to 29% to maintain the former relationship between earnings under piece-work and under hourly rates. The natural effect was to discourage the ambitious and efficient who profited in proportion to their ability and diligence, and to induce them to take the easy course and be content with the hourly rates. This effect was desired by the labor

*The national agreements are discussed in Chapter XVII which deals with the labor policies of the second year of federal control.

leaders who strongly object to any form of piecework or bonus compensation.

The next important supplement was No. 7, dated September 1, 1918. It established new and higher rates for all clerical forces and for certain employees in station, storage or terminal warehouses, docks, storehouses, shops and yards. It also recognized the principle that seniority should govern in selection for promotion where ability and merit are equal.* It allowed employees to decline promotion without losing their seniority rights. It required that employees accepting promotion should be allowed 30 days in which to qualify, and, if failing, to be returned to their former positions without loss of seniority. It specified that new positions or vacancies should be bulletined 5 days so as to give eligible men an opportunity to bid, and it required that seniority rosters should be posted, kept up to date, and copies furnished to employees' representatives on request. It also outlined in detail the procedure to be followed by an employee exercising his right to appeal from the decision of his immediate superior or higher officer.

Supplement 8, of September 1, 1918, established a new and higher minimum basic wage for certain employees in the maintenance of way department, and promulgated rules similar to those contained in supplement 7.

Supplement 10, dated November 16, 1918, granted additional increases to telegraphers, signalmen and other like employees, and prescribed rules like those in supplement 7.

*This principle had already been widely recognized in train service and to a smaller extent in other services.

Supplement 11, of November 23, 1918, authorized additional increases in the wages of station agents and promulgated the rules referred to in the discussion of supplement 7.

Supplement 13, issued under date of December 28, 1918, superseded Supplements 10 and 11, and granted further increases to telegraphers, signalmen and station agents.

In its report for 1918, reviewing the increases recommended to and approved by the Director General, the board said:

> "While very substantial increases in wages and greatly improved working conditions have been granted by recent wage orders, they have generally been less than men performing similar service for industrial concerns engaged in war work are receiving, which differentials are considered warranted on account of the permanency of employment on railroads, while the employment in other Government activities was brought about by war conditions, and is more or less transitory. The object has been kept constantly in mind of creating a wage structure which in its essentials would survive the war period."

Prior to the creation of the Board of Railway Wages and Working Conditions with advisory functions in the field of railway wages and working rules, there had existed a similar board with jurisdiction in controversies growing out of the interpretation or application of the provisions of the then existing wage agreements. That body was known as Board of Adjustment No. 1. It was established by General Order 13 of March 22, 1918. In effect it continued an existing body, identical in functions and in personnel, which had

been established by the railroads companies in March, 1917, before the United States entered the war. The continuation of that body (known as the Commission of Eight) was the result of an agreement between the regional directors and the presidents of the four train-service brotherhoods —enginemen, conductors, firemen and trainmen. The Board of Adjustment, like the Board of Railway Wages and Working Conditions, was bi-partisan. It consisted of four management representatives and an equal number of brotherhood officials. Their salaries were borne jointly by the Railroad Administration and the labor unions, but all other expenses were assumed by the Administration. The functions and jurisdiction of the adjustment board, as defined in the agreement, may be indicated by the following extracts (articles 6 to 10, inclusive):

"All authority vested in the Commission of Eight, to adjust disputes arising out of the application of the eight-hour law, is hereby transferred to the Railway Board of Adjustment No. 1, in the same manner as has heretofore been done by the Commission of Eight. All decisions of a general character heretofore made by the Commission of Eight are hereby confirmed, and shall apply to all roads under governmental operation, unless exempted in said eight-hour law. Decisions which have been rendered by the Commission of Eight, and which apply to individual railroads, shall remain in effect until superseded by decisions of the Railway Board of Adjustment No. 1 made in accordance with this understanding.

"The Railway Board of Adjustment No. 1 shall render decisions on all matters in dispute as provided in the preamble hereof (i. e., all controversies growing out of the interpretation or application of the wage

schedule or agreements which are not promptly adjusted by the officials and the employees on any one of the railroads operated by the Government) and when properly submitted to the board.

"The broad question of wages and hours will be considered by the Railroad Wage Commission,* but matters of controversies arising from interpretations of wage agreements, not including matters passed upon by the Railroad Wage Commission, shall be decided by the Railway Board of Adjustment No. 1, when properly presented to it.

"Wages and hours, when fixed by the Director General, shall be incorporated into existing agreements on the several railroads, and should differences arise between the management and the employees of any of the railroads as to such incorporation, such questions of difference shall be decided by the Railway Board of Adjustment No. 1, when properly presented, subject always to review by the Director General.

"Personal grievances or controversies arising under interpretations of wage agreements, and all other disputes arising between officials of a railroad and its employees, will be handled in their usual manner by general committees of the employees up to and including the chief operating officer of the railroad (or some one officially designated by him), when, if an agreement is not reached, the chairman of the general committee of employees may refer the matter to the chief executive officer of the organization concerned, and if the contention of the employees' committee is approved by such executive officer, then the chief operating officer of the road and the chief executive officer of the organization concerned shall refer the matter, with all supporting

*This refers to the Lane Commission which went out of existence when its report of April 30, 1918, was made to the Director General. Its functions were transferred to the Board of Railway Wages and Working Conditions created by General Order 27, May 25, 1918.

papers, to the Director of the Division of Labor of the United States Railroad Administration, who will in turn present the case to the Railway Board of Adjustment No. 1, which board shall promptly hear and decide the case, giving due notice to the chief operating officer of the railroad interested and to the chief executive officer of the organization concerned of the time set for hearing."

As has already been mentioned, Board of Adjustment No. 1 had its jurisdiction confined exclusively to train and engine service. Subsequently two additional boards of adjustment were established. Board No. 2 was appointed by General Order 29, May 31, 1918, with jurisdiction over disputes affecting the shop crafts. Board No. 3 was created by General Order 53, November 13, 1918, with jurisdiction in matters affecting telegraphers, agents, switchmen, clerks and maintenance of way employees. All of the adjustment boards were the result of agreements between the regional directors and the chief executive officers of the labor organizations. The functions and procedure of Boards Nos. 2 and 3 were similar in principle to those already quoted from the order establishing Board No. 1.

A very large majority of all employees were members of the unions signatory to the agreements under which the three boards of adjustment were established. There remained, however, a substantial number of employees who were affiliated with smaller unions or who belonged to no union. "For the purpose of providing prompt and proper methods of adjusting controversies affecting these employees an assistant director

of the Division of Labor was appointed whose special duty was to investigate all complaints, endeavor to bring about amicable adjustments, and practically perform for these employees the work accomplished by the Railway Boards of Adjustment."*

The following statistics, taken from the 1918 annual report of the Division of Labor, give an indication of the extent to which the first board was called upon to exercise its functions during the first 8 months of its active existence under federal control:

STATUS OF DOCKET OF RAILWAY BOARD OF ADJUSTMENT NO. 1
As of November 30, 1918

Cases entered upon docket under General Order 13........	408
Cases in which decisions have been rendered,..............	292
Cases disposed of locally,..............................	7
Cases withdrawn at hearings,.........................	9
Cases outside jurisdiction of board,......................	2
Total cases disposed of,................................	307
Cases on docket November 30 not yet disposed of,.........	101
Cases set for hearings, December session,.................	51
Cases now ready for action of board,....................	2
Cases held up or requiring additional data,...............	16
Cases on docket under General Order 27,..................	23
Cases in which recommendations have been made,..........	2
Cases held to determine jurisdiction,.....................	21

The record shows that Board No. 2, between July 2 and November 30, 1918, considered 147 controversies and made 128 decisions. Board No. 3 did not begin to function until the close of the year 1918.

As a result of the activities of the several boards and of the Division of Labor, no labor disturbances marred the operating record of 1918, and

*Annual report of Division of Labor, 1918.

the general morale of the service was good. This desirable state of affairs, however, was partly the reflex of patriotic impulse to make the railroads an effective war-winning arm of the Government, and a satisfactory response to Mr. McAdoo's appeals to forget dissentions and disappointments, and to remember that as railroad men they were not only serving their country, but that upon the character, quality, and loyalty of that service depended in a large measure the success of America's effort in the war.*

In concluding this discussion of labor relations in 1918 it is of interest to note that the wage increases and changes in working rules meant large additions to payroll expense, both in higher earnings per employee and in a larger number of employees. The average number of employees on Class 1 railroads during the entire year 1917 was 1,732,876. The comparable average for the entire year 1918 was 1,841,575. The increase was 108,699 or 6.3%. A comparison of the number of employees at the beginning of federal control and on January 15, 1919, shows a somewhat greater difference. On December 15, 1917, the number was 1,703,684; on January 15, 1919, the comparable number was 1,843,530, an increase of 139,846 or 8.2%. This increase in number was caused mainly by the adoption of the eight-hour day in all classes of service.

The total payroll expense of Class 1 railroads in 1917 was $1,739,482,142; in 1918 the comparable total was $2,613,813,351, an increase of $874,-

*Preamble to General Order 27, May 25, 1918.

331,209, or over 50%. These figures, however, do not tell the entire story, as a large part of the 1918 increases and changes in rules were not in effect throughout the entire year.

Mr. McAdoo stated that the increases granted in 1918 were at the annual rate of $600,000,000 to $700,000,000. It is now certain, however, that even the higher figure underestimates the actual extent of the 1918 increases. It is evident that the Director General was not then fully informed as to the effect of the various collateral increases and changes in rules.*

It should be noted here that in 1919 Director General Hines found it necessary to authorize further wage advances and to promulgate additional rules which added to the railroads labor cost, and that in 1920, the United States Labor Board, created by the Transportation Act of that year, found justification for a further general advance of over $600,000,000 per year. The increases granted to railroad labor in 1918 were probably less in percentage than those given to employees in other industries with which the railroads had to compete during an acute shortage of labor.

The further developments in the labor situation, and the policies of the Railroad Administration during the last 14 months of federal control are discussed in Chapter XVII.

*See Chapter XVII for recapitulation of all wage increases during federal control.

CHAPTER XII

OPERATING RESULTS OF 1918

AS the railroads were commandeered by the Government to meet a war emergency, a review of their traffic accomplishments during the year 1918 is of particular interest. It will be recalled that the railroads serving the North Atlantic seaboard were badly congested when the Government took hold. At that time there were 62,247 loaded cars delayed short of their ultimate destination. In addition, there were 31,421 cars held at and west of St. Louis; 24,836 at or west of Chicago; 14,061 at or south of the Ohio River gateways; and 15,545 at or south of the Potomac River gateways. These made a total of 148,110 loaded cars held short of destination. In the majority of cases they were destined to the relatively small area embraced within a line drawn from Portland, Maine, through Albany, Rochester, Harrisburg, and Baltimore.

The operating methods employed to relieve this congestion have already been described. These methods, in spite of the unusually severe weather of January, resulted in the practical clearing of the accumulations by May 1.

During this period the food situation in the countries with which the United States was associated in the war was exceedingly acute. The

needs were estimated by the Food Administrator to be not less than 1,160,000 tons per month. Translated into other terms that meant between 30,000 and 40,000 loaded cars per month to be moved to the seaboard and the same number of empties to be moved westward. The actual exports during the months of January, and the estimated exports for February, fell far short of the minimum requirements, and a forecast of the situation in March was even less encouraging. Vigorous steps were taken by the Railroad Administration to give preference to the transportation of foodstuffs, so that by March 15 the vessel capacity of the Allies was satisfied and there was a surplus awaiting boats.

The situation was graphically described by Carl R. Gray, former director of operation, in an informal address before the St. Louis Railroad Club, May 9, 1919. He stated:

"On the night of February 8, the Director General told me that a committee from the Council of National Defense had asked to see him at 9 o'clock the next morning, but that he had to go to the capital, so he asked them to see me. At 9 o'clock two cabinet ministers, the chairman of the Shipping Board, the Food Administrator, and the Fuel Administrator came in. They had cablegrams from three premiers—of Great Britain, of France, and of Italy—to their respective ambassadors, and these cablegrams sounded almost as though they were written by the same person. I remember that in each instance they said that unless the food program promised by Mr. Hoover was not only maintained but the deficiency made up, that the war would be over by the first of April. I asked Mr. Hoover what he had promised and he said 1,160,000 tons a month, commencing with January 1. I asked him,

'How much have you furnished?' He said, 'In January 750,000 tons; February is one-third gone and we are going at the rate of 500,000 tons, so unless the situation is remedied we will reach the first day of March over 1,000,000 tons short. There is just one month between that time and the time these gentlemen have given as the ultimate date.' ****

"I could see the war lost and the responsibility resting entirely upon the railroads. My fear was that the Director General might hesitate to put into effect the drastic regulations which I knew were necessary. The message from the French Premier said that the French rations had been reduced to the armies in the field; the Italian message said that the rations had twice been reduced and could not be reduced again.

"Mr. McAdoo approved the action that was recommended and that night an order was sent out which absolutely forbade the loading of box cars, except at freight houses, with anything except food. That order remained in effect, the only exception being on account of the War Department, until about March 1. Then it was relaxed somewhat. On March 15 we had every elevator on the Atlantic coast filled with grain, and we had 6,615 cars of other food up against the seaboard!

"I don't believe I ever dictated a letter in which I took so much genuine satisfaction as I did the letter, which I dictated for Mr. McAdoo's signature, to the three ambassadors, in which I called attention to their former call and to the representations made at that time, and called their attention to the 6,615 cars up against the water front."

A serious situation existed also with respect to bituminous coal. At the beginning of federal control there was an actual shortage of cars at the mines; there was a lack of systematic distribution; and there was a serious dislocation of the New England supply because of the withdrawal of the coastwise water service. The coal-carrying

water equipment had been commandeered by the navy and the already overburdened rail lines to and in New England were called upon to handle something more than 150% of their normal coal tonnage. An acute situation existed also in the northwest. Through methods which would have been difficult to apply except under unified governmental control the Railroad and the Fuel Administrations together worked out a plan which gave the needed relief. The coal production in February of 1918 exceeded the tonnage of February, 1917, and thereafter during the year 1918 the coal situation was well in hand.

The greatest factor toward improving the situation was the zoning of distribution. Each of the producing districts was assigned a certain fixed area within which to market its coal. Shipments outside of that area were not allowed except under a permit from the Fuel Administration. The plan eliminated a waste of transportation by prohibiting unduly long hauls to destinations which could be served by nearer producing districts. The cross-hauling which had prevailed to a considerable degree theretofore was eliminated, and coal-carrying equipment was more efficiently utilized. The zoning plan furnished also an incentive for utilizing coal available in the plains states, which otherwise would not have been produced in competition with the higher grades of other districts.*

* The zoning plan brought substantial savings in transportation; but it was not without disadvantage to coal users. It made necessary many adjustments in markets that were accustomed to a particular grade of coal.

Of all of the governmental demands, the movement of troops was naturally given the greatest attention. The Railroads' War Board, as has already been stated, was praised by the Secretary of War for the effective and satisfactory manner in which the railroads had responded to the heavy calls upon them for transportation of troops. The Railroad Administration took over intact the organization which had been handling that phase of operation for the Railroads' War Board and made it the Troop Movements Section.*

Between January 1, 1918 and December 31, 1918 the railroads moved 7,395,310 soldiers, sailors, and marines, an average of 616,276 per month. The maximum movement was in July, when 1,147,013 troops were moved. These figures do not include the large number of officers and men who traveled at their own expense while on furlough and to whom the Railroad Administration granted a rate of 1 cent per mile.

This troop movement in 1918 required the running of 13,912 special trains, with an average train journey of over 800 miles. The average train consisted of 12.2 cars and carried 443 men with their equipment and supplies. The speed of the special troop trains was limited to 20 miles per hour in the interest of safety. Considering the magnitude of the movement and the fact that these were extra trains for which special arrangement had to be made, the record shows a

*George Hodges, who had charge of the organization before and after federal control, and who died suddenly in the spring of 1919, was awarded posthumously the Distinguished Service Medal as a recognition of the very successful results which followed the coordination of this important work.

commendable freedom from accident. Out of the nearly 14,000 trains 16 met with accidents which caused the death of 36 men and injury to 314.

There are no complete data to show the extent of freight traffic for Government purposes separate from that of other purposes. We must be content to view the freight service as a whole.

It might be thought that a comparison of the ton-miles produced in 1918 with those produced in 1917 would give a satisfactory answer to the question: Was the Director General able to operate the railroads as efficiently in 1918 as they were operated during the last year of private operation? The ton-miles of 1917 were the greatest then on record and the volume of traffic during the last three months was so great as to cause serious congestion and inability to operate efficiently with the overload. If, therefore, the Director General could produce as many or more ton-miles, and at the same time could move the freight with less congestion and less delay, it would seem that federal operation in the emergency was justified by the results.

On further thought, however, it will appear that the volume of ton-miles does not furnish the complete answer. Is it not conceivable that the Railroad Administration might have been successful even if the total production in ton-miles was less? Whether it produced as many ton-miles as were produced under private operation is one test; but the real test is this—did it produce in requisite volume the particular kind of ton-miles that were essential to the war?

An examination of the records of performance indicates clearly that the Railroad Administration met both tests. The ton-miles of 1918 exceeded those of 1917 and all previous years, and the particular kind of traffic which was essential for war purposes was satisfactorily transported. The volume of tonnage for non-military purposes was reduced to save the facilities for essential tonnage; but in the aggregate the performance of 1918 passed all previous records.

The following summary of results is taken from the report of the Operating Statistics Section. The figures do not agree exactly with those of the Interstate Commerce Commission, as the latter include returns from a few Class 1 roads which were not retained by the Government.

Freight Traffic Movement and Car Performance *
Class 1 Railroads. Calendar Years 1918 and 1917

Item	Year 1918	Year 1917	Per Cent Inc.
Average miles of road..........	228,729	228,633	....
Ton-miles (millions).............	434,998	427,342	1.8
Freight train-miles (thousands)....	637,924	654,580	*D2.5*
Loaded freight car-miles (millions)	14,928	15,816	*D5.6*
Empty freight car-miles "	7,128	6,717	6.1
Total freight car-miles "	22,056	22,533	*D2.1*
Cars on line daily, serviceable.....	2,291,797	2,230,057	2.8
Cars on line daily, total..........	2,430,786	2,363,309	2.9
Averages			
Ton-miles per train-mile..........	682	653	4.4
Ton-miles per loaded car-mile.....	29.1	27.0	7.8
Per cent loaded to total car-miles..	67.7	70.2	*D3.6*
Car-miles per car-day............	24.9	26.1	*D4.6*
Ton-miles per car-day............	490	495	*D1.0*

* *D* denotes decrease. Ton-miles include both revenue and non-revenue tons. The statistics include the performance of mixed trains.

It will be noted that the increase of 1.8% in ton-miles was accomplished with less train-miles and with less car-miles. Train-miles show a decrease of 2.5%, and car-miles show a decrease of 2.1%. The average train load and the average car load show substantial gains—4.4% increase in the train load and 7.8% increase in the car load. Two items in the tabulation show losses in efficiency: the percentage of loaded to total car-miles and the average miles per car-day were less than in 1917.

The increases in the train load and in the car load are explained in part by the larger proportion of freight which moves in large carload lots, such as coal, ore, iron and steel products, grain, and similar commodities, and the smaller proportion of merchandise and other commodities which move in relatively light car loads. Freight traffic was divided roughly into two classes—essential and non-essential. The former was given preference. The essential freight included the heavy commodities which assist in making a favorable record in car and train loading.

With respect to the larger proportion of empty car-miles and the loss in car-miles per car-day, the decreases in efficiency are partly explained by the policy of arbitrarily moving the empties in solid train lots and of attempting to have the empties available at originating points in advance of the needs. The increase in the car load, also, was purchased at some sacrifice in car movement per day when cars were held for the heavier load.

The ultimate index to the efficiency of freight car utilization is "ton-miles per car-day." This

is the resultant of the car load, the per cent of loaded car-miles, and the car-miles per car-day. It will be noted that the gain of 7.8% in the load was not sufficient to offset the losses of 3.6% in loaded proportion and 4.6% in car-miles per day. The net loss in ton-miles per car-day was 1.0%.

In passenger service as in freight service, the performance in 1918 broke all previous records. Including the movement of troops, the passengers carried one mile in that year were 42,498,248,256, compared with 39,361,369,062 in 1917. The greater part of the 8% increase is accounted for by military traffic, but there was a slight increase in civilian passenger traffic, notwithstanding the curtailment in passenger train service and the appeals of the Railroad Administration to the public to "stay at home."

The net operating income of the railroads under federal control for the year 1918 fell short by approximately $245,000,000 of the amount which the Government paid in the standard return rentals. This deficit includes losses in the operation of the Pullman car lines, refrigerator car lines, steamship lines, and inland waterways, as well as the expenses of the central and regional offices of the Railroad Administration. It does not include interest on expenditures for additions and betterments made by the Railroad Administration but paid for by the companies, nor is account taken of claims for undermaintenance. The discussion of these auxiliary features will be reserved for a later chapter in which the complete results of the federal control period will be reviewed.

A complete and exact statement of the financial results for 1918 is not available in separate form, but summaries of the income account were published monthly by the Operating Statistics Section. They apply only to Class 1 roads and do not include any of the auxiliary services, such as Pullman lines and steamboats; nor do they include the expense of the regional and central offices of the Administration. The figures, however, give a sufficient indication of the relation between the aggregate net operating income of Class 1 railroads and the rentals which were paid by the Government. The difference between the two amounts represents much the greater part of the deficit under federal control.

CONDENSED INCOME ACCOUNT *
Class 1 Railroads in Federal Control. Years 1918 and 1917

Item	1918	1917	Increase or Decrease	
			Amount	Per Cent
Operating revenues..	$4,842,695,884	$3,988,827,671	853,868,213	21.4
Operating expenses..	3,939,315,122	2,808,544,956	1,130,770,166	40.3
Net operating revenue	903,380,762	1,180,282,715	D276,901,953	D23.5
Net railway operating income	688,200,083	960,492,111	D272,292,028	D28.3
Standard return	890,335,685			
Per cent net railway operating income to standard return ...	77.3			
Deficit..............	202,135,602			

* *D* denotes decrease. These returns include the results of operation of 150 Class 1 railroads with an aggregate road mileage of 230,769. Net railway operating income as used here corresponds with its definition in the Federal Control Act, viz., net operating revenue, minus railway tax accruals and uncollectible railway revenues, plus or minus the net balances for equipment rents, joint facility rents, and miscellaneous federal income items (if any). The standard return given here is the figure as it appeared at that time. Since then it has been changed slightly by adjustments.

The deficit was due to an increase in operating expenses which was relatively and absolutely much more than the increase in operating revenues. It will be recalled that a general increase in freight and passenger rates was made effective in June. The wage increases, however, while awarded in May, were made retroactive to January 1. In his final report to the President, Director General Hines estimated that if the advances in freight and passenger rates had been effective from January 1, 1918 the additional revenues in 1918 would have been $494,000,000. This amount, of course, would have wiped out the deficit and would have left a surplus.

It was impracticable, however, to increase the rates at the very beginning of federal control. The reasons why they were not made effective until June have already been given. The record, therefore, must stand as given—a deficit of over $200,000,000.* This deficit and the deficit in 1919 are frequently referred to as the "cost" of Government operation.

As this phase of the question is to be discussed in the review of the results for the entire period of federal control, it may be passed here with the brief comment that so far as the ultimate cost to the public was concerned it made little difference whether the deficit in 1918 was met from the public treasury, or was avoided (as might have been done) by larger increases in rates. In either

*This is the loss on the operation of Class 1 roads. Including all activities of the Railroad Administration, and its organization costs, the deficit for 1918 was about $245,000,000.

case the public pays the bill. The higher cost of railroad operation, however met, was an element in the cost of the war; and the amount of the deficit is not large when we consider the cost of other large scale Government activities incident to the war. The outstanding fact is that during 1918, when adequate transportation was so vitally necessary, the railroads functioned effectively as a part of the war machine, and they served the public reasonably well under very trying conditions. The writer believes that the results achieved under federal control during 1918 were more favorable than would have been possible under a continuation of private control.

CHAPTER XIII

THE GENERAL SITUATION IN 1919

THE situation with which the Director General of Railroads had to deal during the second year of federal control of railroads was different in many respects from that of 1918. During the first year (1918) the controlling motive was to operate railroads as an effective part of the Government's war organization. The compelling forces of patriotism were behind the employees, the officials, and the general public. The railroad organization worked faithfully to produce the kind and the volume of transportation which was vitally necessary for war purposes, and the public cooperated willingly in accepting war-time restrictions in service. As has already been indicated, the results were fairly satisfactory from the viewpoint of the emergency which federal control was intended to meet.

The less satisfactory record of 1919, the second year of federal control, may be partly explained by the changed conditions. The spur of patriotism behind the working forces was lacking. The war-time tension relaxed almost immediately after the signing of the armistice and there was a distinct lowering in morale. Shippers, travelers, and state-regulating authorities began a campaign to restore the pre-war status. Congress adopted

a critical attitude toward the Railroad Administration and delayed or withheld the appropriations recommended by the Director General. The decline in traffic and the shrinkage in net income compelled a closer scrutiny of expenses. The atmosphere was befogged by propaganda designed to create a favorable public attitude toward each of the many plans advanced for the solution of the railroad problem, and practically all of he propagandists set out to discredit the record of the Railroad Administration. Then, too, there was the normal reaction on the part of the general public against the continuation of war-time Government control.

Just before Mr. McAdoo's retirement from the office of Director General he advocated a continuation of federal control for five years. The Federal Control Act provided that the railroads should be returned to their owners within 21 months "following the date of the proclamation by the President of the exchange of ratifications of the treaty of peace." Mr. McAdoo expressed the view that federal control during one year of war and one or two years of the reconstruction period (on the eve of a presidential campaign) would not furnish an adequate test of the advantages of unified operation. He feared that most of the "fundamental reforms" inaugurated during his regime as Director General could not be continued "if the country prefers to continue in existence the hundreds of different railroad companies as in the past." He believed that a five-year extension of operation by the Government would per-

mit the successful carrying out of a farsighted program of improvement and further unification of facilities, and that this additional experience in federal operation under peace conditions would give the desired demonstration of the value of unified control and direction. With such further experience as a guide Congress could more intelligently take up the task of legislating for a permanent solution.*

On January 11, 1919, Mr. McAdoo retired as Director General and was succeeded by Walker D. Hines, his principal assistant. When Mr. Hines, early in February, appeared before the Senate Committee on Interstate Commerce, he supported his predecessor's suggestion that the tenure of federal control be continued for five years. At the same time he made certain suggestions embodying his own views as to what should be the basis of a permanent plan for adoption at the end of the five-year period.

In advocating an extension of federal control Mr. Hines placed himself on the defensive. The opinion was held in some quarters that the Railroad Administration was more interested in perpetuating itself than in responding to the general public demand for legislation which would bring about a safe and speedy return of the roads to private management. Mr. Hines, however, never ardent in his advocacy of an extension of federal control, soon changed his position. In a number of public addresses throughout the South and

* Statement of Mr. McAdoo before the Committee on Interstate Commerce, United States Senate, Janary 3, 1919.

West during the late spring and early summer of 1919 he suggested a plan of his own under which the roads would be restored to their owners as soon as the necessary legislation could be enacted, and under which they would be operated in a small number of large systems, their directorates to include representatives of the Government and of labor.

Throughout his entire term of office Mr. Hines was subjected to much criticism. It should be noted, however, that Mr. Hines could take some comfort in the fact that this criticism came from nearly every one of the divergent interests. The view of the railroad executives was that the Administration was not always fair in its treatment of the interests of the owners of the properties, as for example in the matter of maintenance, and that its failure to advance rates in 1919 to meet the higher operating costs unfairly placed upon the railroads the onus of advancing rates after the roads were returned. These rate advances were made necessary, in greater part, by radically increased wage scales and by the adoption during the closing months of federal control of the restrictive rules in the so-called national agreements. On the part of labor Mr. Hines was criticized because in the latter part of 1919 he refused to be stampeded into granting additional concerted wage demands from practically every class of railroad labor. Instead he insisted that these demands should be reviewed by a tribunal to be appointed by Congress for that specific purpose. Congress, however, refused to entertain

the suggestion and reminded the Director General that he had ample authority to deal with the situation himself. On the part of shippers there was dissatisfaction because many of the privileges which were curtailed during the war were not promptly or fully restored, and because requests for downward revision of certain rates were not all favorably acted upon. On the part of Congress there was fault-finding because of the large operating deficits and there was a disposition to embarrass the Railroad Administration by neglecting to provide the working capital which Mr. Hines recommended. On the part of the state commissions there was resentment against the continuation of the war-time power of the federal administration, which crippled the states in their efforts to resume intrastate rate regulation on the pre-war basis.

It will be seen, therefore, that Mr. Hines' administration failed to satisfy any one group, and that he was beset with difficulties much greater than those with which Mr. McAdoo had to deal during his war-time regime. Mr. Hines had a thankless task. No review of his stewardship would be complete if it failed to record a tribute to his courage in adhering consistenly to his conception of his responsibility to the broad and long-time interests of the nation. He remained in office at a substantial personal sacrifice and severely taxed his health by devotion to his work. If he made mistakes in policy, they were as a rule the result of an over-conscientious attitude toward his duty as the representative of the Gov-

ernment. During a large part of his term in office he was unable to consult freely with the President (who was in France or ill during the greater part of 1919), and therefore was obliged in many important matters of policy to act upon his own initiative and responsibility.

At the time of his appointment as Director General Mr. Hines announced that he proposed to carry forward the policies "so ably put into effect by Mr. McAdoo—fidelity to public interest, a square deal for labor, with not only an ungrudging but a sincere and cordial recognition of its partnership, and fair treatment for the owners of the railroad properties and for those with whom the railroads have business dealings."*

* Public statement, January 11, 1919.

CHAPTER XIV

RELATIONS WITH STATE COMMISSIONS; ATTITUDE ON RATE ADJUSTMENTS IN 1919

ONE of the first important steps taken by Mr. Hines after he became Director General was to divide the Division of Public Service and Accounting into two separate divisions. The late Judge Prouty remained in charge of accounting, and Max Thelen, formerly chairman of the California Railroad Commission and of the National Association of Railroad Commissioners, was appointed Director of Public Service, effective February 1, 1919.

Mr. Thelen was selected as the head of the newly created division because it was hoped that by reason of his former affiliations and the respect with which he was held by the state regulating bodies he might be able to accomplish much in easing the strained relations between the Railroad Administration and the Commissions of the several states. During 1918, when the war was in progress, Director General McAdoo exercised to the full extent the authority conferred upon him by the President's proclamation and the Federal Control Act, assuming complete jurisdiction over intrastate as well as interstate rates and service.* The state commissioners were not

* "There is little question that the summary manner in which the increases were put through was deliberate, and designed to forestall any interference that might spring from public discussion."—*Railroads and Government*, F. H. Dixon, p. 159.

only practically ignored, but the Director General, by establishing regional and district traffic committees, reporting direct to the division of traffic, usurped certain prerogatives which were cherished by the state commissioners. During the war the commissioners felt that they could do no more than protest, but after the armistice was signed they insisted upon the restoration of their powers over intrastate rates, service and facilities.

Following quickly after Mr. Thelen's appointment a conference was held between the Railroad Administration and a committee representing the state railroad commissioners, and the relations between the federal administration and the state authorities were clarified by the publication of General Order 58, of February 20, 1919. The order read as follows:

"In order to clarify the relationship between the United States Railroad Administration and the State Railroad and Public Service Commissions, all officers and employees of the United States Railroad Administration shall be governed by the policies and regulations herein set forth, as follows:

"(1) Transportation systems under federal control continue subject to the lawful police regulations of the several states which were and are applicable to privately operated transportation systems, in such matters as spur tracks, railway crossings, safety appliances, track connections, train service, the establishment, maintenance and sanitation of station facilities, the investigation of accidents, and all other matters of local service, safety and equipment. It will be the policy of the Director General to cause the orders of the State Commissions in these matters to be carried out.

"(2) In all proceedings of the character specified in paragraph 1 hereof, formal or informal, officers and employees of the United States Railroad Administration shall recognize the jurisdiction of the State Commissions and shall assist them in developing the facts and in applying such remedies as may be necessary, and shall fully cooperate with them.

"(3) In all formal proceedings of the character specified in paragraph 1 hereof to which the Director General may be a party, he will consider service as having been made on him if made on the federal manager or general manager, as the case may be, of the transportation system affected, or on such official as the federal manager or the general manager, respectively, shall designate, and whose name he shall file with the State Commission for that purpose. The federal manager, or if none, the general manager, shall designate to each State Commission an officer conveniently located on whom such service may be made. The legal officers of the United States Railroad Administration are directed to appear in such proceedings and to present fully the facts.

"(4) The Federal Control Act empowers the President to initiate rates, fares, charges, classifications, regulations and practises by filing the same with the Interstate Commerce Commission, and empowers said Commission to review the justice and reasonableness thereof. The State Commissions take the position that the intrastate rates are nevertheless subject to their jurisdiction and it will be the policy of the Director General to expedite in every way a final decision by the appropriate tribunal of the question thus raised.

"(5) The Directors of Traffic and of Public Service of the United States Railroad Administration, are directed before authorizing advances of any importance in rates, fares or charges, either interstate or state, to submit the same to the State Commissions in the states affected for their advice or suggestions.

"(6) It is important that the records of the State Commissions shall be continued intact. Transportation

systems under federal control shall file with the State Commissions for information, all their rate schedules heretofore or hereafter issued during the period of federal control, and annual and other reports and information as to matters within the scope of federal control requested by State Commissions according to the provisions of state statutes.

"(7) All officers, agents and employees of the United States Railroad Administration are directed to supply information and render assistance as requested by State Commissions, in accordance with the provisions of this order."

It will be noted that in this order the Director General recognized the local police power of the states. The officers and employees of the Railroad Administration were instructed to cooperate with the State Commissions, and the directors of traffic and of public service were told to secure the advice and suggestions of the appropriate state commissions before authorizing advances of any importance in rates, interstate as well as intrastate. The fundamental question as to the paramount authority of the Federal Government was left for determination by the courts.

The publication of General Order 58 did much to mollify the state commissioners. Throughout the remainder of the period of federal control the relations between the Director General and the state regulating authorities were harmonious. Mr. Hines adopted also a policy of seeking the advice and cooperation of the Interstate Commerce Commission. That body had been virtually quiescent during the year 1918, since under the Federal Control Act most of the Commission's

powers over rates were delegated to the Director General during the period of federal control.

In addition to these measures, which afforded scope for action on the part of the public regulating authorities, steps were taken by the Railroad Administration which gave shippers a greater voice in the councils of the traffic and operating departments. In 1918 the shippers had a minority representation in the 33 freight traffic committees which were created to consider proposals for changes in rates or rules. Early in 1919 the minority representation of industrial traffic managers was increased to equal representation, and the shippers had representatives also on each of the 73 terminal committees created by the Administration to regulate terminal operation, car service, and similar matters. The participation of the shippers' traffic experts on these traffic and terminal committees did much to clear up misunderstandings or to clarify the points of difference.

The general upward revision of freight rates in June, 1918, had been accomplished, with few exceptions, by applying a horizontal increase of 25%. It is obvious, therefore, that in the cases wherein certain commercial relationships were based on freight rate differentials *in cents per 100 pounds,* the application of the percentage increase had the effect not only of increasing the rates, but also of changing the absolute spread between the related rates. In many cases the shippers were more interested in maintaining the differentials than they were in the absolute rates.

Much of the work of the Division of Public Service, the Division of Traffic, and the regional and local committees had to do with readjusting rates and rules so as to restore former relationships. This work began immediately after the general rate increase of June, 1918, but in 1919 it was carried on more intensively. The report of the Division of Traffic for 1919 indicates that subsequent to August 1, 1919, there were 7,804 individual changes authorized.* Of these rate changes 63% applied to interstate rates and 37% affected intrastate rates. The nature of the changes, in per cent of total, is shown in the following table, taken from the 1919 annual report of the Division of Public Service:

PERCENTAGE OF TOTAL CHANGES IN RATES

Nature of Change	Interstate	Intrastate
Reductions	76%	88%
Advances	12	..
Advances and reductions	7	8
Advances to meet decisions of I. C. C.	5	..
Corrections of errors	..	4
Total	100	100

While there was also some activity on the part of the state commissions and other representatives of the traveling public in the matter of passenger rate adjustments, very little was done to change the minimum flat rate of 3 cents per mile established by Director General McAdoo in June, 1918. Requests of certain states to have rates higher than 3 cents per mile reduced to that basis were denied.

* The report does not specify the closing date of the period to which the statistics apply. Presumably the period was from August 1, 1919, to the date of the report, December 15, 1919.

The summary of the results for 1918, given in Chapter XII, drew attention to the deficit of approximately $245,000,000. The tabulation in that chapter shows that for Class 1 roads the operating revenues had increased $853,868,213, while the operating expenses had increased $1,130,770,166. It was noted further that if the rate advances of June, 1918, had been made effective on January 1, 1918, the additional revenue, based on the traffic which actually moved during the first five months of the year, would have been $494,000,000. This additional revenue, if it had been available, would have left a surplus of approximately $249,000,000 instead of a deficit.

When Mr. McAdoo appeared before the Senate Committee on Interstate Commerce on January 3, 1919, (a week before his retirement as Director General) he estimated that the results for 1919 would show a surplus. In other words he believed that with the rate increases of June, 1918, in effect throughout the entire year 1919, the net operating income would exceed the guaranteed rentals. In making this optimistic estimate he did not anticipate that freight traffic in 1919 would be much smaller than in 1918, nor did he take into account the possibility of further advances in wage rates and further increases in the cost of materials.*

* "Retrospection is, of course, far safer and more illuminating than prophecy, particularly in a period when conditions were constantly shifting and the country was face to face almost daily with problems for the solution of which there was little if any precedent. But even granting all this, the amazing optimism of Director General McAdoo, which pervaded his testimony before congressional committees and his various public utterances, had little justification."—*Railroads and Government*, F. H. Dixon, p. 161.

When the figures for the early months of 1919 became available they showed startling deficits. The net result (in even figures) for January was a shortage of $36,000,000 under the standard return; in February it was $35,000,000; in March it was $25,000,000. During the first six months of the year the net operating income fell short by over $227,000,000 of meeting the guaranteed rentals.*

During the early part of 1919 serious consideration was given to the suggestion that there should be a further increase in rates, and the traffic, operating, and accounting divisions made studies which were intended to be the basis for such a general advance. There was a general feeling throughout the Administration that substantial increases would be necessary to enable the Government to meet its guaranteed rentals, and that the Director General could not afford to pile up additional millions per month upon the already large deficit.

Mr. Hines listened to these suggestions, but refrained from taking action. During the second half of 1919, when it appeared that he did not intend to order the advances, and when the second cycle of wage increases began to show its effect upon operating expenses, the executives of the railroad companies, looking forward to the return

* These figures apply to Class 1 roads. They do not include the smaller roads and the terminal companies, nor do they make any allowances for losses from the operation of the express and Pullman services and the water lines, the expenses of the central and regional administrative organization, or claims for under-maintenance.

of the roads on December 31, 1919, were seriously disturbed. They pressed upon Mr. Hines their view that he should exercise his authority and advance rates, so that the properties would be self-sustaining when they were turned back to private operation.

On October 7, 1919, Mr. Hines announced his definite conclusion that the Government should not increase the rates. On October 13 the Chairman of the Association of Railway Executives formally protested against the decision and submitted a resolution adopted by the Association which insisted "that the duty rests upon the Government to restore, on its own initiative and by its own action, the relationship between revenues and expenses which the Government's action in increasing expenses had disturbed, and that appropriate action in this direction is necessary in order to be in conformity with the statement of the President, when the railroads were taken over by the Government, that investors in railroad securities might rest assured that their rights and interests would be as scrupulously looked after by the Government as they would be by the directors of the several railway systems."

In reply to this protest Mr. Hines declined to change his position, which he stated had been taken with the approval of the President. Having decided that it was not in public interest to make an immediate increase in rates for the purpose of increasing the revenues of the Railroad Administration during the remaining months of federal

control, Mr. Hines held that a fundamentally wrong conception was involved in the claim that the President ought to exercise the emergency rate-making power for the purpose of deciding as between the railroads and the public what the former should charge and what the latter should pay *after the end of federal control.* He held that the guarantee applied only to the federal control period and he disagreed with the railroad executives that the abnormal increases in expenses were peculiar to Government operation. In his opinion these increases would have taken place if the Railroad Administration had not been in existence.

There is an apparent inconsistency in the Director General's position on rate increases and on payroll increases. If it was wrong for him to exercise his emergency rate-making powers for deciding what the railroads should charge and what the public should pay *after the end of federal control,* then it was equally wrong for him to exercise his authority in the concluding months of federal control for deciding what labor should charge and the railroads should pay *after the end of federal control.* The national agreements, which were executed on the eve of the return of the railroads to private management, were essentially wage or "man-hour" increases in the form of restrictive rules. Technically they were to remain in force only during the short remaining period of federal control, yet as a practical matter it was recognized by all concerned that the new rules, as well as the rates of pay promulgated

during federal control, established precedents which would continue when federal control ended. Such action was contemplated by the then pending legislation. As finally drawn the Transportation Act of 1920 prohibited the railroads from reducing rates or changing rules of the Railroad Administration during the first six months of resumed private management, and vested the Railroad Labor Board with complete authority to determine when and in what manner future changes might be made. As a matter of fact the national agreements are still in effect at this writing, (July, 1922) although the Labor Board has modified many of the more restrictive and burdensome rules.

In the course of the hearings before the Senate Committee on Interstate Commerce, (April 12, 1922), Senator Cummins, the chairman of the committee, is reported as having made the following statement:

"I think the most serious complaint that can be made of the Railroad Administration lies in the fact that it did not return the railroads to their owners self-sustaining; it ought to have established rates before the railroads were returned that would make the railroads reasonably self-sustaining.

"The failure to do that not only imposed upon the railroads a most unpopular duty, but it imposed upon Congress the requirement to make the guarantee running from the first of March, 1920, to the first of September, 1920.

"If the Railroad Administration, in anticipation of the increase in wages which it knew would come about, and in consideration of the existing fact that the rates were not even then maintaining the properties—if it

had increased the rates as it should have done, the railroads at least would not have inherited that very disagreeable performance; and the guarantee that the Government has to bear now for six months would not have drawn upon the Treasury as it has drawn, and as it must continue to draw.

"I feel that there is a very just complaint against the Railroad Administration in that regard, far beyond any other controversy that it may have with the railroads.

"It was just as much the duty of the Government to return these roads with rates that would sustain them in their operation as it was its duty to return them in as good condition physically as it took them.

"And that is a matter that has not been sufficiently understood by the people of the country. And I think when it is fully understood, that very much of the criticism that has fallen upon the railroads since that time will disappear. I have had that in my mind so long that I felt bound to give it expression at this time."

CHAPTER XV

UPKEEP OF PHYSICAL PROPERTY

WITH his proclamation of December 26, 1917, taking over the railroads the President had issued a statement which explained why the step was necessary, and offered certain assurances to the holders of railroad securities. Among these assurances was the promise that he would immediately recommend to Congress the establishment of definite guarantees that the railroad properties should be maintained in as good repair and as complete in equipment as when taken over by the Government. The recommendation was made, and it was adopted by Congress as part of Section 1 of the Federal Control Act. The principle, however, was expressed in general terms. The accounting details were left to be worked out later in the contract to be agreed upon by the Director General and the individual railroad companies. There was much discussion on this point between the legal representatives of the Administration and of the railroad companies, and the upkeep section of the standard contract was rewritten several times before an agreement was finally reached. As finally adopted the contract required the Director General to expend for maintenance such sums as would be requisite in order that the properties might be returned to the

companies at the end of federal control in substantially as good repair and substantially as complete in equipment as they were on January 1, 1918. As no inspection or appraisal of condition was made when federal control began it was necessary to adopt some accounting expedient to measure the obligation of the Government and the contract contained the proviso "that the annual expenditures and charges for such purposes during the period of federal control on such property, and the fair distribution thereof over the same, or the payment into funds of an amount equal in the aggregate....to the average expenditures and charges for such purposes....during the test period [three years ended June 30, 1917] ....shall be taken as a full compliance with the foregoing covenant....Due allowance shall be made for any difference that may exist between the cost of labor and materials, and between the amount of property taken over,....and for any difference in use .... substantial enough to be considered, so that the result shall be, as nearly as practicable, the same relative amount, character, and durability of physical reparation."

During the year 1918, while the war was in progress, little thought was given to questions of final accounting. The Administration did its best to maintain the properties so that they might function effectively in meeting the demands of war traffic. No limitations as to maintenance expenditures were placed upon the federal managers except those which were caused by shortages in labor and materials. But when the war was over,

when it became evident that the railroads would be returned to private operation by the end of 1919, and when the decline in the volume of traffic coupled with additional increases in wages and higher material costs caused alarming deficits in the early months of 1919, the Director General began to give much personal attention to maintenance expenditures. He impressed upon the regional directors and the federal managers the importance of using care to see that the obligations of the Government were not exceeded, and effective steps were taken, beginning in May, 1919, to restrict maintenance expenditures to a budget allowance authorized for each road by the engineering staff of the central administration.

Early in the year, and before it was known that a budget system for maintenance expenditures would be enforced, the federal managers, following the conventional custom, had laid out their programs for the maintenance season according to their conception of the necessities, and most of them had organized their forces. They were, therefore, greatly disturbed when they received instructions, based on the Director General's telegram of May 27 to regional directors, to limit the June maintenance of way expenditures to an amount which would bear the same ratio to operating revenues that such expenditures on each road during the entire three years of the test period bore to the operating revenues of that period. While it was generally understood that the instructions applying only to June expenditures were intended merely as an emergency brake upon

expenditures pending a more deliberate determination of the program for the remainder of the year, and while the drastic restrictions applying to June were quickly canceled, the effect was to slow up the maintenance programs until the budget system could be installed, and to disorganize the maintenance forces.*

It was apparent that the Director General feared that the natural desire of the federal managers would be to err on the side of liberality in expenditure so that the properties could be put in good condition prior to their return to private management, and that he took a serious view of his responsibility of protecting the Government against overexpenditure. He believed that it would be better to lean toward the side of underexpenditure and settle in cash at the end of federal control, placing upon the railroad companies the burden of proving undermaintenance, rather than run the risk of going beyond the obligation of the Government and thereby place upon it the burden of proving overexpenditure.

Throughout his entire term of office Director General Hines held to the view and frequently

*"This change in the maintenance of way policy of the Railroad Administration from one of most liberal authority by the individual road to a plan of rigid control of expenditures led to a considerable undercurrent of resentment upon the part of railroad officers, both federal and corporate, although much of the criticism would have been avoided if the statistical data on maintenance had been compiled soon enough to have permitted the formulation of a maintenance program before the inception of the season's work. Coming in June, at the height of the season, this curtailment was particularly unfortunate." *Railway Age*, June 2, 1920, vol. 69, p. 58.

stated that the maintenance expenditures of the Railroad Administration were being made on a scale which would meet the Government's obligation under the contract proviso based on the test period. It was his belief that at the end of federal control the Government would be indebted to some of the carriers for inadequacy in some elements in maintenance and that on the other hand some of the carriers would be indebted to the Government for overmaintenance in certain elements. On the whole, he believed that these would about offset each other, and in estimating the net financial result of federal control in his last report to the President he made no allowance for claims for undermaintenance.

An examination of the expenditures during federal control would indicate that Mr. Hines had reason to believe that his position was sound. The average yearly expenditures for maintenance (way, structures and equipment) during the test period were $963,970,719. In 1918 they were $1,742,001,074, and in 1919 they were $1,982,793,296. These figures indicate that the increase in expenditures over the test period was 81% in 1918 and 106% in 1919, an average increase of 93% for the two years. The increase in maintenance of equipment was relatively greater than in maintenance of way—105% for equipment and 76% for way and structures.* No information as to the relative cost of labor and prices of material

*Based upon statistics compiled by the Operating Statistics Section of the Railroad Administration. The figures apply to all Class I roads.

in the test and control periods has been made public, but it is unlikely that wage rates and material costs combined were more than 93% greater than in the test period.

None the less, the properties were not fully maintained. In the single item of cross ties the average renewals per year in the test period were 83,885,109. The average yearly renewals in 1918 and 1919 were 71,363,083. This does not give a complete picture because in many cases the renewals in 1918-19 were in ties of lower grade than those used in the test period. The average annual renewals in rails during the test period were 2,041,676 tons. The rail renewals in 1918-19 were at the rate of 1,821,561 per year. The ballast renewals in the test period were 17,065,599 cubic yards. The comparable figures for 1918-19 were 16,157,522, but in some cases gravel ballast was used instead of crushed stone.* In addition to the inadequacies in the renewals of ties, rail and ballast, there was inadequacy in the maintenance of structures, mainly in painting. These, however, cannot be stated in exact units.

In the case of locomotives the maintenance was fairly adequate, but both freight and passenger cars were in relatively inferior condition when the roads were returned. The failure to keep up freight car repairs may be attributed in greater part to pooling. With respect to passenger cars it was impracticable to release them from service for the usual periodical shop overhauling, because

*From evidence prepared by Bureau of Railway Economics for presentation before Senate Committee on Interstate Commerce in hearings on Senate Resolution 23, June 15, 1921.

every car was urgently needed in 1918 for the movement of troops from camps to seaboard and in 1919 for the demobilization of the army.

The case of freight cars requires further explanation. Prior to federal control the joint use of freight cars by all roads was governed by the car service and the *per diem* rules of the American Railway Association and the interchange rules of the Master Car Builders' Association. These rules were entirely suspended or substantially modified during the period of federal control. The car service rules prescribe the manner of joint use; the *per diem* rules fix the rate of daily rentals; and the Master Car Builders' code defines the responsibility for repairs. We are particularly interested in the question of repairs. In brief, the code holds the car owner responsible for repairs made necessary by ordinary wear and tear in service both when the car is at home or on another road. The user of the car is held responsible for repairs made necessary by "unfair" usage, such as that caused by train accidents. The light running repairs required to make good broken or missing parts are made by the road which has the car, when the need of such repairs becomes apparent. The cost of making good ordinary wear and tear is charged to the owner; the cost of repairs occasioned by rough usage is charged to the road responsible for the damage. In the course of time, usually every two or three years, the cumulative effect of wear and tear and accidental damage necessitates a general over-

hauling of the car. In normal times this is commonly done by the owning road when the car is at home. When a car is on a line other than the owning line the repairs are confined ordinarily to those required to put the car in condition to be sent home in service. The using road naturally restricts its work on cars of other companies to that which is necessary to keep the car in condition for day to day service. This means that the typical road takes care of the running repairs of both its own cars and those of other roads while on its rails, and confines the heavy general repair work to its own cars. Prior to federal control the typical road had about 60% of its cars at home and 40% were on other lines.

During federal control the principles of unification were applied in a degree which with respect to freight cars caused a virtual disregard to ownership. Under the instructions no distinction was to be made between "home" and "foreign" cars in making repairs. In theory each road was required to regard every car as its own car and to make the needed repairs, both light and general, to the limit of its capacity. In the distribution of cars little effort was made to return them to the owning road. Consequently the percentage of "home" cars on "home" roads was reduced from 60% to from 10 to 20%.

If the instructions which required each road to assume responsibility for the general repairs of all cars on its lines could have been carried out the results would have been more satisfactory. But as each road had difficulty in obtaining labor

and materials, it was natural that the heavy repairs were devoted principally to the few home cars that happened to be at home and the work on foreign cars was confined to running repairs or patch work which merely kept the car in condition for day to day service. As the heavier work was neglected it was inevitable that the general condition of cars should suffer. It was inevitable also that the larger proportion of patch work or temporary repairs substituted for the thoroughgoing general repairs which would have been given by the owners in normal times meant that the total expenditures would not bear the usual relation to the general condition of maintenance. And in addition to this factor, which explains in greater part why freight cars were returned in inferior condition notwithstanding the expenditure of more than twice the maintenance cost of the test period, there was the factor of relative efficiency of labor. The restrictive rules of the national agreements and the much larger percentage of inexperienced employees had the effect of increasing expenses without increasing output.*

A recent statement† by Ralph Budd, president, Great Northern Railway, contains statistics which

*The factor last mentioned was a main point of difference between the Director General and the railroad companies in coming to an agreement on the terms of the final settlement. It is unnecessary to pursue the point further here. It was in controversy also in connection with the guarantee paid by the Government during the first six months under the operation of the Transportation Act of 1920 (March 1 to September 1, 1920). The Interstate Commerce Commission decided that the relative efficiency of labor should not be considered in the settlement.

†*Railway Review*, June 10, 1922, p.875.

illuminate this point. During the three years of the test period (1915-16-17) the Great Northern repair cost per car owned was $57.02, and 85% of their cars were on their own rails. In 1918 the average cost was $154.11, and they had 45% of their own cars at home. In 1919 the average cost per car was $165.15, with 37% of their own cars at home. During the following two years, under higher wage rate and the national agreement rules, and with deferred maintenance to make up, the repair cost per car was $223.78 in 1920 and $187.04 in 1921. The percentage of home cars on home rails in 1920 was 42, but in the following year, when conditions had become normal so far as car location was concerned, the percentage of Great Northern cars on Great Northern rails was eighty-three.

CHAPTER XVI

ADDITIONS AND BETTERMENTS DURING FEDERAL CONTROL

THE inability of the railroads in 1917 to finance additions to and improvements in facilities and equipment was one of the important reasons for federal control. The Federal Control Act appropriated $500,000,000 as a revolving fund to be used to pay the expenses of the Railroad Administration and to finance additional facilities or equipment required for Government operation. The Act provided that these additions and betterments could be ordered when "necessary or desirable for war purposes or in the public interest on or in connection with the property of any carrier." Advances could be made from the revolving fund for all or any part of the expense of such additions or improvements, such advances to be charged against the carrier, to bear interest, and to be repaid so that the Government would be fully reimbursed in the final settlement. As an offset to the interest charges on such advances, the Director General was required by the contract to pay interest to the company upon the cost of such work from the date of its completion, in addition to the guaranteed rental. A distinction was made between work required solely for war purposes and therefore of no permanent

value to the company, and work which would inure to the permanent benefit of the company. The cost of work required solely for war purposes was to be assumed by the Government. Tracks or other facilities at military camps are examples. As an indication of the extent of such work, it may be noted that Director General Davis, in a statement to the House Committee on Appropriations, May 5, 1921, stated that claims then pending against the Government on that account might aggregate $200,000,000.

There was relatively little of betterment work under way when federal control began. The reasons for the slowing up of such work is discussed at some length in the introductory chapter. Pending a determination of policy, the Director General continued the improvements and enlargements then in progress. On February 2, 1918, the railroads were directed to prepare and send in budgets of improvements immediately required to increase capacity and efficiency and to promote safety in operation. In the letter of instructions the following policy was prescribed:

In determining what additions and betterments, including equipment, and what road extensions should be treated as necessary, and what work already entered upon should be suspended, please be guided by the following general principles:

(a) From the financial standpoint it is highly important to avoid the necessity for raising any new capital which is not absolutely necessary for the protection and development of the required transportation facilities to meet the present and prospective needs of the country's business under war conditions. From the standpoint of the available supply of labor and mate-

rial, it is likewise highly important that this supply shall not be absorbed except for the necessary purposes mentioned in the preceding sentence.

(b) Please also bear in mind that it may frequently happen that projects which might be regarded as highly meritorious and necessary when viewed from the separate standpoint of a particular company may not be equally meritorious or necessary under existing conditions, when the Government has possession and control of the railroads generally, and therefore when the facilities heretofore subject to the exclusive control of the separate companies are now available for common use whenever such common use will promote the movement of traffic.

The policy of the Administration was more definitely defined in General Order 12, dated March 12, 1918. Repeating the substance of the instructions contained in the letter just quoted, the order went further in requiring that the construction of new lines or branches or the extension of existing lines should not be undertaken without the approval of the Director General. The same restriction applied to the ordering or construction of new locomotives or cars. Work under way prior to federal control, or new work, if in harmony with the policies outlined in the letter of February 2, could be continued or undertaken when the capital charges for any one project would not exceed $25,000. All projects to cost in excess of $25,000 each were to be referred to the Director General for approval.

The budgets submitted in response to this request called for expenditures chargeable to capital account amounting in the aggregate to $1,329,-000,000. The total cost of the proposed work

would be substantially greater as a portion of the expenditures would be chargeable to operating expenses under the accounting rules of the Interstate Commerce Commission. These budgets were revised by the divisions of capital expenditure and of operation and, as finally approved by the Director General, were reduced to $975,000,000 chargeable to capital accounts. This amount was subsequently increased as the need of additional improvements or new equipment (particularly new freight cars and locomotives) became apparent so that the total capital expenditures authorized in 1918 amounted to $1,278,-814,998. Because of shortages in the supply of labor and materials, however, it was not possible to expend as much as one-half of the authorized amounts. The actual expenditures of the year on capital account were about $592,000,000.

After the signing of the armistice, and when Congress, in February, 1919, showed an inclination to embarrass the Railroad Administration by refusing to approve the appropriation recommended by the Director General for the enlargement of the revolving fund, the program for new work was curtailed. The limit of $25,000 allowable without prior approval was reduced to $1,000, and the individual companies in most cases were obliged to finance the work. While in any event the companies would be obliged finally to pay for additions and betterments (subject to subsequent claim for reimbursement for improvements solely for war purposes) the Administration in 1918 and early 1919 advanced the needed

money from its revolving fund. The depletion of that fund early in 1919 made it necessary for the Administration to require that subsequent expenditures on capital account should come from the treasuries of the companies as the work was undertaken.

The total authorizations for the capital accounts proportion of betterment work in 1919 were less than one-third of those authorized in 1918. A substantial part of the work begun in 1918, however, was continued (including new freight cars and locomotives ordered in that year but not received until 1919) so that the actual charges against capital accounts in 1919 were about $571,000,000, or substantially as much as in 1918. Including similar expenditures made in January and February, 1919, which were about $37,000,000, the total charges to capital account for additions and betterments made during the entire two years and two months of federal control were about $1,200,000,000. The details are listed below:

CAPITAL EXPENDITURES DURING FEDERAL CONTROL

Item	1918	1919	Two years
Roadway and track....	$294,000,000	$247,000,000	$ 541,000,000
Improvements to existing equipment......	19,000,000	21,000,000	40,000,000
New equipment purchased by R. R.....	161,000,000	64,000,000	225,000,000
New equipment purchased by R.R. Admin.	118,000,000	239,000,000	357,000,000
Total 1918 and 1919	$592,000,000	$571,000,000	$1,163,000,000
Estimated expenditures in January and February, 1920..............................			37,000,000
Grand total..............................			$1,200,000,000

An analysis of the details in the annual report of the division of capital expenditures, 1919, shows that among the items grouped above as "Roadway and track," the following items, in the order in which they appear, called for the greatest expenditures:

(a) Additional yard tracks, sidings and industrial tracks.
(b) Shop buildings, enginehouses, and appurtenances.
(c) Additional main tracks.
(d) Bridges, trestles, and culverts (renewals).
(e) Rails and other track materials (renewals).
(f) Freight and passenger stations, office buildings, and other station facilities.
(g) Shop machinery and tools.

The expenditure of over $582,000,000 for new equipment was distributed as follows:

Type of Equipment	Purchased by Railroads	Constructed in Railroad Shops	Purchased by Railroad Administration	Total
Locomotives	1,910	393	2,114*	4,417
Freight-train cars ...	25,600	12,909	95,704	134,213
Passenger-train cars....	700	107	...	807

The improvements to existing equipment consisted mainly of the application of superheaters and mechanical stokers to locomotives.

Director General Hines, in his final report to the President, February 25, 1920, covering the 14 months ended March 31, 1920, made the following comment with respect to new equipment:

"The equipment ordered by the Railroad Administration was allocated to the various railroads according to its judgment as to their needs. The locomotives

*Included 200 Russian locomotives leased from the war department.

were accepted as a rule without much protest. The allocation of the cars, however, raised great protest. Emphatic claim was made that the cars ought to be regarded as a war burden and paid for by the Government, also claims were made that the cars were not needed in the number or of the character allocated. Upon receipt of any such protest each case was considered on its merits and such modifications made in the allocation as seemed to be just. When it became clear that the prices of equipment at the end of federal control promised to be higher than the Government paid for the equipment in question, the objections to the allocations disappeared in many cases and, in fact, some companies which had objected to the allocations, because too large, sought and received additional equipment out of the amounts not allocated."

This comment has a bearing upon the standardization of equipment. The subject is treated extensively in Chapter VII.

In the same report Mr. Hines concludes his discussion of capital expenditures with the following pertinent observations on the pressing need for further investments in additions and betterments:

"During a considerable period immediately preceding federal control, the railroad companies had cut down the amount of their expenditures for additions and betterments and equipment because of the high prices, difficulty in obtaining deliveries, absence of funds, and so forth. The Railroad Administration was, of course, not able to make any plans whatever with respect to a program of capital expenditures for either way and structures or equipment for the calendar year 1920; and it is understood that comparatively little has been done in that direction up to the present time by the railroad companies. The result is that at this time very large expenditures are called for on the railroads in the public interests to increase their efficiency and

enable them to meet the growing demands for transportation. Unless the railroad companies shall be able to adopt and enforce the important unifications of facilities and equipment and control in the common interest of the handling of the business in times of stress, the available facilities and equipment will turn out to be wholly unequal to the requirements of the public. Even with substantial continuance of all the important methods of unification and common control, the necessity for very large capital expenditures, both of way and structures and for new equipment, will be very great.''

CHAPTER XVII

POST-WAR LABOR POLICIES OF THE DIRECTOR GENERAL

THE second year of federal control was marked by acute dissatisfaction on the part of labor and by many strikes. A substantial part of the time of the Director General and the Director of Operation, as well as the entire time of the Director of Labor, was spent in labor negotiations. At one time it was necessary for President Wilson to take an active part in a controversy with the shop crafts.

The labor situation in 1918, and the policies of Director General McAdoo in dealing with employees, are discussed in Chapter XI. In that year, during 11 months of which the United States was engaged in the war, Mr. McAdoo adopted a fairly liberal policy in advancing wages and in conceding principles favorable to labor. When Mr. McAdoo assumed the duties of Director General he found that the classified employees, whose extreme demands in 1917 for greater compensation had not been met by the railroad managers, were in the mood to force the issue even by attempting to paralyze railroad service by a general strike when the nation was at war. Prompt assurance that the demands of the employees would have immediate and sympathetic attention by the

Director General, and that the increases when made would be retroactive to the beginning of federal control (January 1, 1918), together with an assurance that the Director General's "cabinet" would include as Director of Labor the chief executive officer of one of the railroad labor unions, cleared the atmosphere. While there was some dissatisfaction when the wage increases were announced in May, it was not serious, and further upward revision in the wages of the dissatisfied classes effectively checked the tendency to fight for the higher scales of compensation then applying to the war industries. On the whole, the attitude of labor in 1918 was one of loyalty to the Administration and of willingness to work faithfully so that the railroads could meet the stupendous war-time transportation demands.

Following the signing of the armistice on November 11, the situation quickly changed. The cool reception which was accorded to Mr. McAdoo's proposal that federal control should be extended five years, or to the close of 1923, indicated clearly that Congress, responding to insistent public opinion, would adopt legislation under which the railroads would be returned to private management as soon as the transfer could safely be made. In May, the President announced that the railroads would be returned to their owners by the end of 1919.

The employees had fared so well under federal control, and their leaders had found it so much easier to obtain concessions from the Director General than from the railroad managers under

former private control, that early in 1919 they adopted a policy of attempting to get as much more in further wage increases and favorable rules as was possible to obtain from the Administration while it continued in existence. Under such circumstances, Mr. Hines, who succeeded Mr. McAdoo as Director General on January 11, 1919, was confronted with a difficult task in holding these demands within reasonable bounds and in maintaining the morale of employees. He could not invoke the spur of patriotism, so effective in 1918. The war was over and it had been won. Profiteers and others had made and were making fortunes. Labor outside of railroad service was still receiving war-inflated wages. It was natural then that the railroad workers should exert every effort and should use the entire strength of their organizations to obtain the greatest possible advantage while conditions were favorable for the purpose.*

*"It is not without significance that the leaders of the railroad unions and a large body of the membership indorsed the movement for permanent nationalization following the war experience. This sudden shifting of position on the part of the leaders, most of whom had previously been opposed to the policy, can be interpreted as a shrewd estimate of what federal management meant to them. They had had their first taste in the Adamson Act. Upon this as a foundation they built up their powerful national organization of the war time, under the sympathetic observation of the first Director General and with the active assistance of his Director of Labor. It is no exaggeration to say that the gains made by railroad labor during the 26 months of federal operation in the power of collective bargaining, in the development of union organization, in the standardization and nationalization of practises and policies, were greater than in the entire previous period of their existence. That they desire to perpetuate these gains under private operation is no more than human." *Railroads and Government*, F. H. Dixon, p. 189.

Following the general wage advances and the general adoption of the basic eight-hour day in May, 1918, there was a cycle of additional increases. The shop crafts were the first to receive attention on July 25, 1918; then the clerical forces and maintenance of way employees on September 1; then the telegraphers and signalmen on November 16; and then the station agents on November 23. In 1919, the following additional supplements to General Order 27 were promulgated granting higher wage rates and favorable working rules for the classes of employee specified:

Supplement 14, January 25, employees of police department.

Supplement 15, April 10, enginemen and firemen.

Supplement 16, April 14, conductors and trainmen.

Supplement 17, April 14, Pullman conductors and porters.

Supplement 18, April 14, restaurant and dining car employees.

Supplement 19, April 14, express service employees.

With the issuance of the last of these supplements the Director General announced that the "war cycle" of wage increases had been completed and that any further increases would have to be considered in the light of new conditions.*

*"In the spring of 1919 retail prices for everything the laboring man had to buy were continuing to rise, and further increases were then predicted. The great question that then confronted me at that time was whether I would shape my policy as to encourage and apparently render inevitable a still further increase in the cost of living, or whether I would shape it so as not to be an influence in that direction. I felt that the country was involved in a vicious upward spiral at that time; that

The announcement, however, did not deter the formulation and presentation of new wage demands from practically all classes of employee. The shop crafts were more insistent than other classes and in August, 1919, forced the issue by a threat to strike when the demands were not granted. The situation became so serious that President Wilson found it necessary to intervene in support of the Director General and a nationwide strike was averted by a compromise offer which gave the men a fraction of the increases

every upward change that was made involved some other upward change, which always translated itself into a still higher cost of living. If railroad wages were increased it would mean similar increases in rents and in retail prices pretty shortly. And if they were increased, and if wages were increased again as a result thereof, it would mean another increase in retail prices. And under the conditions as they existed in the spring and summer of 1919, on a rising market of retail prices, practically any pretext was seized upon as a reason for an additional increase in prices. . . . . In view of that situation I reached the conclusion that if I could hold the level of railroad wages where it was I would render a very important public service, so I took the position that I would not favor a general increase in wages. . . . . But while in 1919 the condition was as I have described, and while I felt and saw with perfect clearness what my policy ought to be, it was quite clear that I could not ignore all complaints as to wage inequalities or working conditions. There were not only numerous extreme demands being pressed on behalf of various organizations and employees, but there was the most extreme agitation going on within the organizations, agitation of the most extreme kinds; the most extreme types of labor agitators were at work and were threatening to overthrow the more conservative and experienced leaders who in my opinion were endeavoring, in the interest, not only of the laboring man, but of the public, to help control a situation of very great difficulty. In that situation I felt that it was of the highest importance that I should consider with patience and justice any claims that were made for readjustments in wages and in working conditions while still insisting I did not feel a general increase ought to be made in the level of wages.'' (Testimony of Walker D. Hines, former Director General, before Senate Committee on Interstate Commerce, January 24, 1922).

demanded. The men at first refused to accept the Director General's decision, but after the President had taken a hand in the affair, and the whole subject was given much publicity, the leaders prevailed upon the militant minority of the union membership to make the best of the award. With the moderate increase in wages, was coupled an assurance of a national agreement which meant as much, if not more, to the organization than wage rates. This agreement will be referred to in detail in another part of this chapter.

While these negotiations were in progress the executive officers of the shop crafts had much difficulty in restraining a substantial part of their members. Within their ranks were many who were radical in view and some of them aspired to overthrow and supersede the leaders then in office. As a result there were many unauthorized strikes of shopmen throughout the country, all of which were without sanction of their executive officers. These officers did all that they could do to restrain the men and induce them to return to their jobs and await the outcome of orderly negotiations, and the Director General notified the strikers that their demands as a whole would not be considered until all of the strikes were terminated. While a few of the strikes were serious in their effects, most of them were sporadic and brief.

These unauthorized strikes, however, were not wholly on account of wages. Out of the 33 strikes among railroad and express service employees but 10 related specifically to wage rates. The ma-

jority of them were the reflex of the disposition of the employees to take matters of discipline into their own hands. Here is a complete list of such cases (omitting the 10 which were based upon wage demands) abstracted from the 1919 annual report of the Division of Labor:

Date	Employees and railroads involved	Cause of strike.	Adjustment
Jan. 3	Shopmen, Atlantic Coast Line R. R., Wilmington, N. C.	Demand for discharge of employee who refused to join union.	Returned to work and controversy adjusted by employees and officials of the railroad, in accordance with their working agreement.
14	Yard employees, Yazoo & Mississippi Valley Ry., St. Louis-San Francisco, and Union R. R., Memphis, Tenn.	Demand for removal of colored switchmen.	Do.
17	Shopmen, Atchison, Topeka & Sante Fe R. R., Prescott, Ariz.	Demand for removal of general foreman.	Returned to work and controversy adjusted by employees and officials of the railroad.
17	Clerks, Seaboard Air Line Ry., Raleigh, N. C.	Demand on the superintendent for dismissal of chief clerk.	Do.
29	Shopmen, Great Northern R. R., Great Falls, Mont.	Demand for jurisdiction over positions of engine inspector.	Returned to work and controversy adjusted by employees and officials of the railroad, in accordance with their working agreement.
30	Machinists, Seaboard Air Line Ry., Savannah, Ga.	Misunderstanding with regard to removal of coupon from employees' bonds of the third liberty loan.	Returned to work upon explanation by officials or reasons for deductions made.
Mar. 11	Clerks, Nashville, Chattanooga & St. Louis R. R., Nashville, Tenn.	Demand for removal of federal auditor.	Demand refused. Returned to work, management reinstating striking employees as far as possible.
Apr. 9	Shopmen, Delaware, Lackawanna & Western R. R., Scranton, Pa.	Demand for removal of efficiency speed-up man.	Returned to work on basis of settlement arrived at with the officials of the road.
12	Locomotive tender & car repairmen, 47th St. Shops, Chicago, Rock Island & Pacific R. R., Chicago, Ill.	Dispute as to jurisdiction over work of painting front ends of locomotives.	Returned to work and controversy adjusted by employees and officials of the railroad, in accordance with their working agreement.
May 7	Carmen, Norfolk & Western R. R., Columbus, Ohio.	Demand for removal of six employees who refused to pay fines assessed by organization.	Demand withdrawn. Returned to work May 8.
June 3	Steel car repairmen, Chesapeake & Ohio R. R., Huntington, W. Va.	Protest against removal of foreman.	Request denied. Returned to work.
3	Locomotive and car department employees, Baltimore & Ohio R. R., Holloway, Ohio.	Protest against demotion of foreman, account dispatching locomotives with federal defects.	Returned to work and controversy adjusted by employees and officials of the railroad, in accordance with their working agreement.

Date	Employees and railroads involved	Cause of strike.	Adjustment
June 5	Shopmen, various points, Norfolk & Western R. R.	Protest against discharge of eight employees and demand for removal of foreman.	Returned to work and controversy adjusted by employees and officials of the railroad in accordance with their working agreement.
7	Shop employees, Pennsylvania R. R., Altoona, Pa.	Demand for removal of general foreman, and alleged discrimination against two members of boilermakers' organization; also certain local grievances.	Returned to work and controversy adjusted by joint investigation between committee of shop crafts, railroad officials, and mechanical department, Division of Operation.
July 17	Shop employees, Seaboard Air Line R. R., Tampa, Fla.	Protest against working on cars going to phosphate mines where men were on strike.	Returned to work and protest withdrawn.
26	Shopmen, Missouri, Kansas & Texas R. R., Wichita Falls, Tex.	Demand for payment of time lost account frequent delays of shop train.	Request denied. Men returned to work with understanding that effort would be made to avoid delays.
Aug. 11	Carmen, Norfolk & Western R. R., East Radford, Va.	Protest against reinstatement of objectional employee.	Returned to work and controversy adjusted by employees and officials of the railroad, in accordance with their working agreement.
21	Blacksmiths and machinists, Missouri, Kansas & Texas R. R., Parsons, Kans., and Denison, Tex.	Dispute between blacksmiths and machinists as to jurisdiction over oxweld work.	Returned to work with understanding that controversy would be settled by railway employees' department, American Federation of Labor.
22	Carmen, Peoria & Pekin Union R. R., Peoria, Il.	Dissatisfaction with change in hours of beginning work.	Returned to work and controversy adjusted by employees and officials of the railroad.
26	Steel car repairers, Chesapeake & Ohio R. R., Silver Grove, Ky.	Protest against working on basis of three mechanics to one helper.	Returned to work and controversy adjusted by employees and officials of the railroad, in accordance with their working agreement.
Sept. 17	Boilermakers, Los Angeles & Salt Lake R. R., Las Vegas, N. Mex.	Demand for removal of foreman.	Returned to work and controversy adjusted by employees and officials of the railroad, in accordance with their working agreement.
Oct. 28	Shopmen, Atlanta, Birmingham & Atlantic R. R., Fitzerald, Ga.	Demand for discharge of foreman.	Men returned to work. Request denied.

It will be noted that most of the trouble was among the unskilled workers in the mechanical crafts, where the radical element was strongest. The train service brotherhoods were concerned in but one strike, serious in its effect during the few days of its life, called locally in Southern California (without authority from the national

executive officers) in sympathy with the striking employees of an interurban electric road.

The compromise increase in wage for the shop crafts (4 cents per hour) was incorporated in the first national agreement. This agreement which in addition to wage rates established new rules and extended the scope of other rules already promulgated by Supplement 4 to General Order 27, was executed by the Director General on September 20, 1918, and the rates of pay were made retroactive to May 1. On behalf of the employees affected it was signed by the chief executive officers of the six shop crafts, viz:

International Association of Machinists

International Brotherhood of Boilermakers, Iron Shipbuilders and Helpers of America

International Brotherhood of Blacksmiths and Helpers

Amalgamated Sheet Metal Workers International Alliance

International Brotherhood of Electrical Workers

Brotherhood of Railway Carmen.

While the large majority of the employee members of these unions were engaged in locomotive and car shops, the organizations also controlled certain employees in the services of maintenance of way, structures, signal, and telegraph and telephone lines.

This national agreement with the shop crafts was followed by similar agreements with four other organizations, viz:

Brotherhood of Maintenance of Way Employees and Railway Shop Laborers, executed November 22, 1919;

Brotherhood of Railway Clerks (including freight handlers and certain other station service employees), executed January 1, 1920;

Brotherhood of Stationary Firemen and Oilers, effective January 16, 1920;

Brotherhood of Railroad Signalmen, effective February 1, 1920.

These four agreements applied only to classifications and other working conditions. They carried with them no further increases in wage rates.

Another important concession was made to labor in the fall of 1919 when the Director General, on his own initiative and without a favorable recommendation from the Board of Railway Wages and Working Conditions, authorized the payment of punitive overtime (at the rate of time-and-one-half) to engine and train crews in slow freight service.

Outside of the 4 cents per hour increase granted to the shop crafts on September 20 (retroactive to May 1), the punitive overtime basis for slow freight service, and the five national agreements applying to working conditions, the Director General, with the approval of the President, resisted all pressure for further wage advances in 1919. During the controversy with the shopmen and others in midsummer, the Director General suggested to the appropriate committees in Congress that the whole matter be referred to and passed upon by a commission appointed by Congress. Congress, however, refused to relieve the Director General of the disagreeable task, and reminded him that under the Federal Control Act he was authorized and required to make such decisions himself.

About this time the bills upon which the Transportation Act of 1920 was based were under consideration on Capital Hill and it was plain that the new law would provide a tribunal of some

kind for the orderly adjustment of labor disputes when private control of railroads was re-established. The Director General insisted that the final decision as to the whole subject of railroad wages in general should be left for the determination of whatever body Congress should create for the purpose. The President took the position that it would not be practicable to make the decision during the brief remaining period of federal control, but that, in accordance with previous assurance given by him, he would use his influence to expedite consideration of the wage demands as much as possible after the expiration of federal control. The final disposition of the demands by the United States Labor Board in May, 1920, will be referred to in the review of the year 1920.

Large increases in wage rates and expensive concessions to labor on conditions of employment were phenomena of the war. Their effects upon the railroad payroll were probably no greater in degree than upon the labor costs of other industries. In fact the general average percentage of increase in railroad wage rates during the years 1918 and 1919 was probably less than in other directions. The railroad increases, however, affected payrolls containing the names of approximately two millions of employees. It was the magnitude of the absolute increases rather than the degree of the increase that attracted public attention and provoked criticism.

The effect of the several general wage advances on the payroll expenses of the railroads under federal control, is shown in the following tabulation prepared by the Railroad Administration for

the subcommittee of House Committee on Appropriations, April 12, 1920:

	Employees affected	Effective date	Estimated annual increase in payroll, chargeable to operating expenses
General Order 27 (substantially recommendation of Lane Com'n)	All employees receiving less than $250 per month	1918 Jan. 1	$360,000,000
Supplement 4	Shop employees	Jan. 1	209,000,000
Supplements 7 and 8	Maintenance of way employees and clerks	Sept. 1	190,000,000
Supplement 13	Agents and operators	Oct. 1	25,000,000
Supplements 14, 17 and 18	Policemen, dining and sleeping car employees	1919 Jan. 1	8,000,000
Supplements 15 and 16	Enginemen and trainmen	Jan. 1	60,000,000
Increase in pay under equalization adjustment effective May 1, 1919	Shop employees	May 1	50,000,000
Time and one-half for overtime allowed	Enginemen and trainmen in road freight service	Dec. 1	38,000,000
Time and one-half for overtime and other adjustments in pay	Maintenance of way employees Clerks	Dec. 16 1920 Jan. 1	25,000,000
Total			$965,000,000

In the aggregate the higher wage rates and the more favorable working rules made effective during federal control had the effect of increasing the railroad wage costs at the annual rate of at least one billion dollars. The estimate is based upon a comparison of wage earnings at the end of federal control with those of December, 1917. In making it the wage advances of 1918 as well as those of 1919, the effect of the universal application of the eight-hour day, and the added expense

of punitive rates for overtime are taken into consideration. During the latter part of 1919 Mr. Hines stated that the wage rates in effect at that time, expressed in average earnings per hour or per day, were approximately 56% greater than those of December, 1917. Between the date of his statement and the termination of federal control further upward adjustments were made, such as the application of punitive overtime in freight train service and the adoption in the national agreements of many new rules which had the effect of swelling payroll costs. These rules not only increased the compensation to the individual, but required the employment of more men for the same amount of work.

An indication of the effect of the higher wage rates and the changes in working rules upon net income is seen in the following table which shows the distribution of the dollar of operating revenues for Class 1 roads during the years ended December 31, 1916 to 1919, inclusive:*

Item	1916	1917	1918	1919
Labor	40.8	43.3	53.6	55.3
Fuel (locomotive)	7.0	9.8	10.2	9.2
Loss and damage	0.9	1.1	1.3	2.3
Injuries to persons	0.8	0.8	0.7	0.8
Insurance	0.3	0.4	0.2	0.0
Depreciation and retirements	3.3	2.9	2.4	2.4
Material, supplies and miscellaneous[1]	12.5	12.2	13.1	15.6
Taxes	4.4	5.3	4.6	4.5
Hire of equipment and joint facility rents	1.1	0.9	0.8	1.1
Return on investment	28.9	23.3	13.1	8.8

[1] Includes uncollectible railway revenues.

*Table 15, exhibits of Bureau of Railway Economics, presented as evidence before the Senate Committee on Interstate

Such exception as may be taken to the labor policy of the Railroad Administration applies particularly to the punitive and restrictive rules in the national agreements, to the extension of the principle of standardization, and to the extreme centralized control of labor relations. The national agreement with the shop crafts was drawn up by a committee of four subordinate officers of the Administration in conference with representatives of the labor organizations. No member of this committee of subordinate officers had had any railroad managerial experience of responsible character. The chairman had once been an enginehouse foreman; one member of the committee was serving the Administration while on leave of absence from his regular duties as president of one of the unions affected by the agreement; the third member had once served as an enginehouse or boilershop foreman; the fourth member had once been a locomotive fireman and

Commerce, June 15, 1921. Exhibit 22, of the same series, gives the average compensation per employee:

Item	1916	1917	1918	1919
Average compensation:				
Per employee per hour	$ 0.278	$ 0.318	$ 0.460	$ 0.554
Per employee per day	3.048	3.334	4.466	5.207
Per employee per year	892.	1,004.	1,419.	1,486.

About 90% of all employees are paid hourly rates; the remainder are paid daily or monthly rates.

These figures, of course, take no account of the further increases awarded in 1920 by the Railroad Labor Board created by the Transportation Act. The average compensation in 1920, assuming that the increases of May had been in effect throughout the year, was as follows:

Per employee per hour	$ 0.704
Per employee per day	6.458
Per employee per year	1,926.

In 1920 labor received 59.9 cents out of each dollar of operating revenues.

had served as a local chairman for the fireman's organization on one road. The agreement as tentatively agreed to by this committee and the representatives of the unions was sent to the Director General with the recommendation of the Director of the Division of Operation and was signed by the Director General on September 20, 1919. It should be noted that neither the regional directors nor the federal managers in charge of the respective railroad units had approved the agreement, and that it was not recommended by the Board of Railway Wages and Working Conditions.

As a matter of fact the regional directors in the early stages of negotiation had protested against the proposed agreement. It was later taken out of their hands entirely and passed to the committee appointed by the Director of Operation (Mr. Tyler). Mr. Hines, in his testimony before the Senate Committee on Interstate Commerce, January 24, 1922, emphasized the point that all the rules in the agreement were heartily indorsed and recommended to him by Mr. Tyler, an experienced railroad operating official who "had long familiarity with labor matters" from the viewpoint of management.

No single act of Director General Hines was subjected to more criticism than the execution of the national agreements, and no one feature of federal control caused more discussion after the termination of federal control. Because of the important bearing which these agreements had upon discipline and operating costs, the outstand-

ing features of that applying to shop crafts will be briefly summarized.

The agreement prescribed in detail the classification of each craft and each grade of employee within each craft, defined what each employee might do, and, conversely, either by specific statement or by inference, what he might not do. These rules, classifications and definitions constituted the greater part of the agreement. The length of the basic working day was defined, arbitrary limits were set within which the day's work should begin, and a requirement was inserted that the starting hour should be the same for all shop craft employees in any one locality. An employee could not be required to begin work before 7 a. m., nor later than 8 a. m., (on the day shift), except under punitive overtime. The punitive rate for overtime, either before or after the specified hours, and for Sundays and holidays, was time-and-one-half. Besides, certain arbitrary minima were prescribed as a guarantee to an employee held or called for overtime work. An employee called for work on Sunday or a holiday could elect to remain on duty all day and get pay for 1½ days even though he was needed but a few hours or less. Employing officials were required to keep a record of overtime made by each employee so that overtime might be distributed equally among all eligible employees. It might be assumed that the purpose of this record was to protect the employee against being required to work an excessive amount of overtime, but the reverse is true. The record was designed to pro-

tect an employee so that he might be assigned all of the overtime to which he was entitled. The punitive rate and the minimum guarantees for overtime, Sunday and holiday work, were so attractive and provided such a premium that overtime was sought rather than avoided.

The agreement outlined the method of advertising vacancies or new positions and the manner in which an employee could "bid" for positions, providing further that the oldest employee in point of service should be given preference if sufficient ability was shown *by trial*. The Administration's first rule on this subject (in Supplement 7 to General Order 27) provided that "promotions shall be based on ability, merit and seniority; ability and merit being sufficient, seniority shall prevail." The national agreement rule allowed any employee to exercise his seniority rights in demanding a trial appointment, but it did not specify who was to be the judge as to whether the employee had "sufficient ability." The burden of proof of inability, however, rested upon the management. The employee had nothing to lose by "bidding in a job" beyond his ability and outside of his experience. If, after his trial, his inability was so obvious as to be beyond question, he was permitted by the rules to resume his former position without prejudice or loss of seniority rights, but the management was put at serious disadvantage by the delay in filling the position temporarily, in the pecuniary loss incident to the fruitless trial employment of employees in positions for which they were not

fitted, and in corresponding disturbance in other positions made vacant temporarily while the trial employment was going on.

The management was required to grant an employee, upon his request, "leave of absence for a limited time, with privilege of renewal," when the requirements of the service would permit, but nothing was said as to who should be the judge of service requirements. Arbitrary refusal of "a reasonable amount of leave" to employees, when they could be spared, was designated as "an improper practise" and "unjust treatment."

Employees were to be paid off during regular working hours, and if the payday should fall on a holiday or a day on which the shop was to be closed the employees were to be paid on the preceding day.

The agreement bound the management to permit none but mechanics or apprentices to do mechanics' work (except foremen at points where no mechanics were employed) and it limited the employment of apprentices so that their number would bear a definite ratio to the number of mechanics. It further limited apprentices to boys between 16 and 21 years at the beginning of their apprenticeship. This rule put a stop to the practise of some roads in engaging technical school graduates (over 21) as special apprentices with a view to giving them a broad training in detail and preparing a group of specially trained men from which to select minor officials. One rule provided that in the selection of regular apprentices preference, up to 80% of the number employed, was to be given to sons of employees.

Finally, the agreement provided that an employee who had been in the service for 30 days could not be dismissed for incompetency; and that an applicant for employment could not be required to give information about himself or his past record other than to state his "ability" and to give the address of relatives. The object of this restriction was to prevent the management from making inquiries from former employees or others concerning the man's training and character. The address of relatives was permitted so that they might be notified in case of accident.

The foregoing is a summary of the important rules in the national agreement with the shop crafts. The document contained many other rules which call for no comment here. The rules in the later agreements with other branches of the service were identical in text or similar in principle. All of these agreements were objectionable in certain important particulars. Many of the rules were essentially a form of wage increases or designed to "furnish more jobs for more men." The classifications of work and the limitations on what each class might do went beyond the point of legitimate protection against exploitation or injustice, and tended seriously to limit output and unfairly to increase operating costs. Certain rules required the helper to stand idly by and watch the higher priced mechanic perform simple tasks which a helper could do as well while the mechanic was engaged on something else. Numerous examples might be cited but two typical

cases will suffice. A helper was not permitted to unscrew nuts from the piston rod packing gland on one side of the locomotive while the mechanic was engaged in making repairs on the other side. A mechanic could not disconnect the wiring of an electric headlight, although he could easily perform the simple task in two or three minutes, when certain repairs were required on the front end of the locomotive. An electrician had to be called to attend to the wiring, and the mechanic and his helper stood by until the wires were disconnected. The rigid definitions in the classifications caused a multiplication of jobs to be done by several men. Under former conditions a smaller number of men satisfactorily performed the same amount of work without raising any question as to infringement of rights.

The rules in the agreements penalized the railroads heavily and unfairly in emergencies which required work of any character outside of regular hours, regular assignments, or away from headquarters. Emergencies are unavoidable in railroad operation and emergency work is a regular part of railroad service. In an emergency in which a simple task could be performed by a foreman, the rules required that the foreman must call a mechanic or whatever craftsman was entitled to the job, and the man called would receive pay for at least five hours in addition to his regular day's pay, even though the emergency task took but a few minutes.

Under former conditions it was the practise to employ a limited number of "handy men" who could do different kinds of work for which the

employment of regular craftsmen was not justified by the volume of such work. While the rules did not specifically prohibit the employment of such "handy men" no provision was made for them, and the rules were subsequently interpreted by the Administration as preventing their employment.

The national agreements also operated to limit the labor supply by restrictive definitions. As a single example, four years' practical experience or the full period of apprenticeship was specified as the minimum experience on car work for a carman. The grade of work upon which carmen are employed does not require that amount of training, but the rule prevented the management from employing a competent carpenter as a car repairer unless he had had the specified four years of training in car repair work. The object of the rule was to limit the supply of labor available for that class of work.

The rules also unreasonably tied the hands of the employers by making seniority in service virtually the sole factor in promotion or in the selection of men for new positions. The railroads did not object to the principle of seniority if with it went some recognition of merit and ability. Such has been the general practise for years. The principle of seniority has long been recognized, but the management has reserved the right to have something to say in the appraisal of merit and ability. The national agreement rule which gave the senior man the right to demand a trial of 30 days in any position to which his seniority

rating entitled him, even when he was obviously unfitted, had a demoralizing effect upon the service. In some cases two or three men would, in turn, insist upon their month's trial in a specific vacancy, and, as a result, the vacancy would not be permanently filled for three months or more. In the meantime a similar experience might be going on in the positions temporarily vacated by the men undergoing trial.

Impaired discipline and a general lowering of the morale of the service followed in the wake of the national agreements. At the very beginning of his employment a mechanic could ignore a request for information of vital importance to any prudent employer. The employer could not require the applicant to divulge anything concerning his past experience or his personal character, nor to show "service letters" or other evidence of fitness for the position. The applicant had only to state that he had had at least four years' experience as a mechanic. He was not required to offer any supporting evidence. Then, if employed and retained in the service for 30 days, he could rest easy. Rule 37 provided that after that length of service he could not be dismissed for incompetency. This and other rules of the same tenor required the railroads to retain men who were useless or worse than useless. As a natural result the regulations stripped the employing officer of the authority which legitimately was his and without which he could not satisfactorily discharge his responsibility for the maintenance of efficiency among the employees of his department,

and they diminished the respect with which he was viewed by the men.

It is true that many of the rules in the national agreements had been in force on individual railroads, particularly in the South and the Southwest where, because of the limited supply of mechanics, the unions could successfully insist upon concessions not recognized elsewhere. But no individual road had *all* of the rules. The national agreement was a collection of the most favorable rules on all roads, plus a few which were original. Many of the existing concessions were the result of bargaining in which a rule was granted as a substitute for higher pay or as a "trade" for something else. Very few of the unfair rules were in effect outside of the South and Southwest.

It is pertinent to note here that all of the national agreements were entered into on dates subsequent to May 20, 1919, when the President announced that the roads would be returned to their owners at the end of that year, and three out of the five agreements were executed by the Director General after it was known by the President's announcement of December 24, 1919, that federal control would terminate on March 1, 1920. The railroad executives, therefore, had ground for criticizing the Director General for assuming burdens which these agreements passed on to the railroads while he was unwilling at the same time to assume the responsibility for increasing freight and passenger rates so as to meet the additional expenses. The statement has been made privately that these agreements were made by Mr. Hines to

redeem a pledge given by Mr. McAdoo while the war was in progress and when extra inducements to keep the locomotive and car shops at their maximum output were justified.* The writer cannot vouch for the accuracy of the statement, but, if true, it had an important bearing on the later action of Mr. Hines. The early negotiations looking toward the first agreement were begun during Mr. McAdoo's regime many months before the document was finally signed.

Prior to the events which led up to the passage of the Adamson Act late in 1916, the relations between the railroad managements and their employees on the typical railroad were reasonably harmonious. It is true that these intimate relations had begun to dissolve before the roads were taken by the Government. But during the 26 months of centralized power over practically everything that had to do with the pay envelop and with working conditions, the control of local officers over their employees was much weakened. While there had been some standardization of wages and working rules in certain classes of service, the policies of standardization in these matters were carried to an extreme degree during the life of the Railroad Administration. Rates of pay and conditions of employment in nearly all

*At Mr. McAdoo's request the shopmen worked overtime during the first 11 months of 1918 in order to increase the shop output. When the armistice was signed the hours of shopmen were restored to the agreed 8 hour basis. When working more than 8 hours during the war, they were of course paid overtime rates.

classes of service were made uniform in every part of the country. A car inspector in a small town in Florida received the same rate of pay as one who worked in Chicago or St. Paul. A station clerk in a small inland town worked under the same scale as one who had to assume the higher living costs of Boston. The colored women who cleaned cars in the South were awarded the same wages as white men or white women who did similar work in New York or Pittsburgh. If the standards adopted were reasonable for the lower living costs of the South, they could not be reasonable for the northern sections of the country, particularly in urban communities where rents, fuel, and other costs of living were much higher. If the standards were reasonably sufficient for northern cities they must have been unreasonably high for the southern states. Yet an inflexible uniformity in wage rates and in rules affecting hours of service or other terms of employment was prescribed for nearly every class of service regardless of differences in going rates, in rates or rules for similar employment in competing industries, in the severity of work, density of traffic, relative degree of experience, and the local purchasing power of the dollar.

In Chapter XI, which deals with labor policies during the year 1918, reference was made to the Boards of Adjustment which were created during the first year of federal control. These boards, three in number, supplemented the work of the Board of Railroad Wages and Working Conditions, and gave effect to understandings reached between the regional directors and the executives

of the unions, under which bipartisan boards were to be established to adjust controversies as to discipline, interpretation of rules, or other similar grievances. An unfortunate effect of the centralization of the machinery for determining wage rates and rules and for the adjustment of grievances was that of undermining the influence of the officers in authority locally on the individual roads, and thereby of impairing discipline. Throughout the entire period of federal control there was a growing tendency on the part of employees to disregard their immediate superiors and the federal managers also, and to go to Washington with all sorts of grievances, many of them trivial. Though a substantial portion of these complaints were decided against the employees, the net effect, particularly during the last 14 months of federal control, was to reduce the local officers to mere figureheads in the adjustment of labor differences. According to the rules of procedure each case had first to be presented to the local officers, but generally that was a mere formality incident to the final reference of the case to the centralized boards. The attitude of the employees grew to be that their real friends and the real power were in Washington. The local officers found themselves unable to adjust even minor differences unless the employees' position were conceded in full, and on the part of these officers there grew to be an inclination to let the central administration assume the responsibility which should go with the authority to settle controversies. Under such circumstances

it was inevitable that discipline should be impaired and that the morale of the service should suffer.

During the year 1919 the three boards of adjustment handed down 3,100 decisions. The output of board No. 1 was 102 decisions per month, or about 4 per working day. In addition the Division of Labor made decisions in over 600 cases affecting employees whose cases were not referred to the boards. Then, too, there were the numerous cases investigated and adjusted locally by the field agents of the Division of Labor. The 1919 annual report of the Director of Labor contains a list of over 300 cases of the kind.

An examination of the decisions of the boards of adjustment indicates a wide variation in the number of the cases presented to the boards by the employees or the managements of individual roads. Some roads had but few cases; others had many. It is not possible without an intimate knowledge of the facts to say whether in the first set of cases the freedom from dispute was the result of exceptionally harmonious conditions and disinclination on the part of the employees to appeal, or whether it was the result of weakness on the part of the management in avoiding trouble by conceding practically all claims. In the second set it is not possible to state with assurance whether the many disputes were caused by an exceptional lack of harmony and a disposition on the part of employees to seek for cases to appeal,

or to a narrow or unbending attitude on the part of the management to concede nothing of a controversial nature and to play safe by shifting the responsibility to Washington.

CHAPTER XVIII

FINANCIAL RESULTS OF ENTIRE PERIOD OF FEDERAL CONTROL

THE financial results of the year 1919 were much more unfavorable than those of 1918. The deficit in 1918 was approximately $245,-000,000. For the entire period of federal control, January 1, 1918 to March 1, 1920, the deficit was at least $1,200,000,000. This was the estimate given by Director General Davis* in his letter of May 5, 1921, to the Chairman of the Committee on Appropriations of the House of Representatives. In April, 1920, shortly after the close of federal control, Director General Hines stated that the deficit would be about $900,000,000. This figure, however, failed to include many items which Director General Davis had taken into account in his higher estimate. It is quite probable that the final sum will be substantially in excess of Mr. Davis' estimate of $1,200,000,000, if the railroad companies are successful in obtaining recognition of even a small part of the claims which are now

*Mr. Hines was succeeded as Director General on May 15, 1920, by John Barton Payne. Mr. Payne, who combined his duties as Secretary of the Interior with those of Director General, resigned when the Democratic administration went out in March, 1921. As his successor, President Harding appointed James C. Davis, general counsel for the Railroad Administration. Prior to his connection with the Railroad Administration Mr. Davis was general solicitor of the Chicago & Northwestern Railway.

pending. In his letter above referred to, Mr. Davis estimated that the claims for undermaintenance alone would probably run from $700,000,000 to $800,000,000 and he added that "the Railroad Administration records fail to support claims for overmaintenance sufficient in amount to offset these amounts, and it is quite evident that some allowance must be made on account of undermaintenance." Up to December 10, 1921, final settlements had been made with railroad companies owning 44% of the mileage (excluding "short lines") under federal control. The delay in settlement was mainly the result of differences in viewpoint on the one factor of maintenance, and the time taken to prepare the vast amount of accounting detail required by the Administration, or furnished by the railroad companies on their own initiative, in support of their claims. These settlements included compromises on claims for undermaintenance, but that item, in each case, was lumped with other disputed claims and no itemized statements which furnish an indication of the relation between the amounts claimed and the amounts allowed for undermaintenance have been made public.

Director General Davis, in a report to the Senate, under date of December 10, 1921, in response to a resolution asking for information on the status of the accounts of the Railroad Administration, with particular reference to claims, refused to itemize the details of the final settlements made with individual carriers. His refusal, which he stated had the approval of President Harding, was based on the ground that to

make such detail public would embarrass him and delay progress in the settlement of pending claims of other carriers.*

The details of the estimated deficit of $1,200,-000,000 are not available to the writer, but some light on individual items may be had from the final report of the Division of Finance, which gave the estimated deficit as $900,478,757. The difference is mainly in claims of various kinds not then taken into account. The report is dated May 10, 1920, and gives the following analysis of the Profit and Loss account as of February 29, 1920, when the roads were returned to private operation:

ANALYSIS OF PROFIT AND LOSS ACCOUNT

Estimated excess of operating expenses and rentals over operating revenues:		
Class 1 railroads	$677,513,152	
Other privately owned properties	43,011,129	
Inland waterways	2,449,739	
Total	$722,974,020	
Expense of central and regional organization	13,954,980	
Deficit, American Railway Express Company	38,111,742	
Adjustment of materials and supplies	85,204,618	
Net interest accruals	37,558,162	
Non-operating income	....	$ 12,336,855
Deductions from gross income	10,118,034	
Miscellaneous profit and loss items	4,894,056	
Profit and loss debit balance	....	900,478,757
Total	$912,815,612	$912,815,612

In analyzing the causes of the deficit under federal control, Director General Hines in his final

*Railway Age, Dec. 17, 1921, p. 1213.

report and in other public statements called attention to certain features which he believed should be given consideration. These features may be summarized as follows:

(1) It was not practicable to increase rates immediately when federal control began. The general increases in freight and passenger rates were made effective in June, 1918. The first general increase in wage rates, while announced in May, 1918, was made retroactive to January 1.

(2) During the first six months of 1919 there was an extraordinary slump in traffic.

(3) The coal strike in November and December, 1919, seriously affected revenues, and operating expenses were increased by the higher price of fuel.

Mr. Hines stated that the net operating income of 1918 would have been $494,000,000 greater if it had been practicable to increase rates on January 1, 1918, in the same degree that they were advanced in June. This additional revenue would have brought a surplus of nearly $250,000,000 in 1918, instead of a deficit of an approximately equal amount.

In referring to the disappointing results of 1919, Mr. Hines intimated that the serious decline in business during the first half of the year accounted for practically all of the deficit of $292,500,000 in that period. To the coal strike he attributed the deficit of $114,000,000 in November and December, 1919. He called attention also to the fact that the Federal Control Act required

the Government to assume one-sixth of the annual standard return as the rental for January and February, 1920, although the earning capacity in those two months is lower than the average for the year. In the test period the January and February proportions of the yearly railway operating income were 6.228% and 5.257% respectively, a total of 11.485% for the two months, whereas the "pro rata for each fractional part of a year of federal control" (required by the Federal Control Act) obligated the Administration to pay 16.667% of the annual rentals. This method of accounting added approximately $49,000,000 to the deficit for January and February, 1920.

It is proper, of course, to give due consideration to all of these adverse factors. At the same time it must be remembered that scarcely any period in railroad operation is free from similar factors which affect net income. The so-called "outlaw strikes" in 1920, for example, account for the larger part of the deficit during the first six months of resumed private operation while the Government guarantee was continued. The slump in traffic in 1921 accounts in greater part for the disappointing results of that year, and the extensive strikes of shopmen, miners, textile workers and others in 1922 seriously diminished the net revenue of that period.

Mr. Hines quite properly objected to the deficit during the 26 months being labeled as the "cost" of federal operation. As was pointed out in reviewing the financial results of the first period of Government control, the deficit in that period could have been avoided if the increase in freight

and passenger rates had been greater. The larger deficit of the second period could similarly have been met if Mr. Hines had considered it expedient to initiate further rate increases during his régime. As it stands, the loss is borne by the public treasury. It might have been imposed in the first place upon shippers and travelers in higher transportation charges, but the ultimate net result would have been practically the same.

If private operation of railroads had continued during the war, it is probable that the railroads would have had to assume increases in expenses approximately as great as those assumed by the Government. Although it is probable that the restrictive rules of the national agreements would not have been adopted, a wage scale lower than that of the Railroad Administration could hardly have been maintained without intolerable interference with the movement of troops and war supplies. It is true that the railroads were turned back with diminished earning power; but it is doubtful whether the security holders would have been in any better position on March 1, 1920, if private operation had continued throughout the war.

CHAPTER XIX

HOW FAR THE POLICIES OF UNIFICATION HAVE PROVED PERMANENT

IT is not practicable to make a satisfactory appraisal of the economies made possible through the unification policies of the Railroad Administration. These economies were entirely obscured or were offset in whole or in part by other factors which had an overpowering influence upon operating expenses. Among the adverse factors the two of greatest effect were (1) the necessity during the first year of giving primary attention to war-time transportation needs and but secondary consideration to operating costs, and (2) the lower efficiency of labor, especially among the employees with whom the national agreements were made. Further to be considered are the general advances in all wage rates, the general adoption of the eight-hour day in all branches of the service, the greater costs of materials, and the highly unsettled business conditions. Unfortunately there is no known test which if applied to the operating results of two periods would bring definite results from which the single factor of unification of facilities and equipment could be measured with any approximation of accuracy. The estimates which appear in the annual reports of the Administration are

to be viewed with caution, as they tell but part of the story. Undoubtedly the common use of terminals and other facilities by roads which are normally in competition resulted in savings in operating costs. These, however, under the non-competitive conditions of federal control, were not as important as was the increased capacity which such consolidations made possible when the railroad machine was taxed to its utmost by the demands of war transportation. During the year 1918 the unification policies and the centralized control, backed by patriotic cooperation from the whole organization, made it possible to produce a volume of transportation greater than that produced in 1917 (when all previous records had been broken) and to move the traffic with less congestion and delay. It should be noted, however, that in 1920, particularly during the second half of the year, when the railroads were again under private operation and when the policies of the Railroad Administration were not in effect, the volume of traffic exceeded even that of 1918, and it was moved with a freedom from congestion and delay that compares favorably with the record of the best months of the federal control period.

Since the termination of federal control many of the unification policies of the Railroad Administration have been materially modified or have been entirely abandoned. Many were applicable only to a period in which competition in service was eliminated. The absence of competition in service during federal control was distateful to the shipping and the traveling public. The pros-

pect of a renewal of competition under the initiative of private operation was one of the most important reasons for the unanimity of the demand on the part of the public for a return to pre-war conditions of transportation service.

For a considerable period before the war, with uniformity of rates and charges, competition had been confined almost entirely to service. The soliciting forces of competing lines emphasized the superiority of their terminals or the regularity and expedition of their train service. The road which had shown foresight in locating its terminals advantageously, or had foregone a part of its dividends over a series of years so as to improve its facilities and equipment, made the most of these favorable factors in its traffic-soliciting efforts. The road which had inadequate or less accessible terminals, or was otherwise meagerly equipped, was forced to excel in other features of service. In other words, the spur of competition was a helpful tonic which reacted to the benefit of public service.

During federal control, with virtual pooling of facilities wherever practicable, and with complete elimination of competition, the terminals and other facilities of the prudent road were used in common by other roads which had been unable or unwilling to improve their facilities and equipment. Naturally, with the return of competitive conditions of private management the well-managed roads were disinclined to share their advantages with competitors. The year 1920 consequently witnessed a general reversion to the

pre-war status and the abandonment of most of the innovations of the Railroad Administration. A few instances of unification still remain, such as the joint use of the Pennsylvania passenger terminal in New York by the Pennsylvania and the Baltimore & Ohio Railroads.

The Transportation Act of 1920 empowers the Interstate Commerce Commission to require the joint or common use of terminals, including main tracks for a reasonable distance outside of the terminals, when such a requirement is believed by the Commission to be in the interest of public service. As yet the Commission has not formally exercised that power. Probably it will not be invoked until the Commission has worked out its recommendations for the voluntary consolidations provided for in the Act.

Joint use of locomotives has not been continued, although in some cases during the heavy traffic period of 1920 roads with surplus power rented locomotives to roads which were short. As to freight cars, the *per diem* rules agreement, the car service rules, and the interchange code of the Master Car Builders' Association have been readopted substantially as they were before federal control. The *per diem* rate for the use of freight cars has been increased from 60 cents to $1 and the car service rules have been amended in certain particulars, but these amendments do not affect the individuality of ownership and control under normal conditions. The Interstate Commerce Commission, however, has been given greater power (under the Transportation Act) to

control the distribution of cars and locomotives when conditions justify the exercise of that power. A Commission on Car Service has been created as a branch of the American Railway Association and has been clothed with certain administrative powers of policing the railroads to see that the car service rules are properly observed.

There is little likelihood that the Railroad Administration standards for locomotives and freight cars will be continued as such, but probably there will hereafter be a closer approximation to uniformity in certain features of design and appurtenances. The individual roads are reverting to the former practise of designing locomotives and freight cars to suit their local needs. The ultimate result will probably be to reduce the number of types of peculiarly local design, and in freight cars particularly there will be further progress toward standardization.

All of the accounting short cuts used by the Railroad Administration in dividing joint revenues and expenses have been abandoned. The plan for standardizing operating statistics, however, has been perpetuated by the Interstate Commerce Commission. During the year 1920 this plan was continued by the Commission without change; but effective on January 1, 1921, certain modifications were made at the request of the railroad executives with a view to reducing the clerical work required by the original plan.

The right of the shipper under Section 15 of the Act to Regulate Commerce to specify the

route over which his shipment should be carried has been restored, but the Interstate Commerce Commission is authorized by the Transportation Act of 1920 to order changes in the routing of traffic when in its opinion a road is unable so to transport the traffic offered to it as properly to serve the public.

Prior to the date of the termination of federal control the railroad companies took steps to reorganize the "off line" soliciting agencies which had been abolished by Director General McAdoo, and on March 1, 1920, or shortly thereafter, practically all of these agencies were again functioning. In discussing this subject in an earlier chapter attention was drawn to the fact that the public did not take kindly to this abridgment in service.

A few of the consolidated ticket offices have been continued. In some cities certain of the roads have withdrawn, but the joint offices are being used by the remaining roads. In Chicago, for example, three roads withdrew while nineteen remained. In most cases where the offices were broken up, or where some of the roads withdrew, the action was taken because certain of the roads believed that the joint offices worked against their individual interests under competitive conditions. Undoubtedly the consolidated ticket office tended to throw a greater number of passengers to the strong lines and correspondingly to reduce the passenger traffic of the weaker roads.

The policy of reducing or eliminating duplicate passenger train service, such as that between

Chicago, St. Louis, Omaha, and the Twin Cities was quickly abandoned. With the return to former conditions of competition it was but natural that the service should be restored substantially on a pre-war basis.*

The efforts of the Railroad Administration to centralize the purchasing of equipment, rails, ties and other materials and supplies never produced satisfactory results. The Administration itself abridged the scope of the plan in 1919, and it died at the end of federal control.

Advertising for traffic purposes was entirely discontinued during the first year of federal control, but was resumed to a limited extent in 1919 with a view of stimulating passenger travel. In 1920, under private operation, advertising was resumed on the former scale.

The permit system for controlling traffic at the source, a plan which had much to do with the prevention of congestion during federal control, has been continued in part, particularly in the field of export traffic. Shipments for export are not accepted unless the shipper can give assurance that ship space will be available at seaboard. The plan works well in preventing an accumulation of cars at water terminals.

On the whole it may be said that nearly all of the innovations of the Railroad Administration

*During the year 1919 the Railroad Administration restored a large part of the passenger train mileage taken off in 1918. Out of the 67,290,482 train-miles (per annum) discontinued in 1918, the Administration restored 11,461,758 (per annum) up to June 30, 1919. The reestablished service included some of the limited trains, such as the Broadway Limited of the Pennsylvania Railroad between New York and Chicago.

were effective only under the non-competitive conditions of federal control. Most of these innovations brought satisfactory results while the war was in progress, especially in increasing traffic capacity. Most of them worked less satisfactorily in 1919 when the return of the roads to competitive conditions was in sight. Under the free play of competition the principles of unification have a much restricted application and in the majority of cases they are not regarded with favor either by the railroads or the public.

CHAPTER XX

POLITICAL INFLUENCE DURING FEDERAL CONTROL

IN concluding this review of the two years and two months of federal control of railroads it is proper to suggest several questions which usually have a prominent place in any discussion of nationalization as a possible remedy of the railroad problem.

The first has to do with labor relations: did Government management show a tendency to make undue concessions to labor for political or partisan ends? Here it is difficult to distinguish between policies and actions dictated solely by emergency needs and those which in some degree may have been inspired by political motives. The Administration was committed by President Wilson to a definite policy of keeping labor contented. Director General McAdoo was confronted with an extremely serious situation. The relations between the railroad managers and their employees were badly strained. This tension had begun to manifest itself in an extreme way prior to the passage of the Adamson Act (in 1916). The ill-feeling then engendered had not materially improved up to the time when federal control began, and conditions at that time were most difficult. Railroad labor was then generally re-

garded as underpaid. The railroad managers were having trouble in holding their employees against the higher wage attractions elsewhere and stated that they could not pay enough to retain their workers. Various strike threats were in the air and the situation generally was one of extreme tension.

Under the President's policy of striving to keep labor contented it was necessary to grant wage rates and to concede working rules which under other conditions might be regarded as unreasonably favorable to organized labor. The main purpose of this sympathetic attitude of the Administration toward the aspirations of the leaders of railroad labor was undoubtedly to prevent disputes which would adversely affect transportation service during the war period and thus bring discredit upon federal management. At the same time it was perfectly natural that the Administration, with an eye to its perpetuation, would on the one hand do everything that properly could be done to foster friendly relations with labor, and on the other hand would avoid doing anything which would antagonize the labor vote. It is true that such criticism as may fairly be made of the Director General's policies apply to actions taken after the armistice was signed, yet on the whole, it is the writer's opinion that *political* motives did not have a dominating influence in labor relations. While there is much to support the view of many observers that the Administration did truckle to labor, there is little evidence that this policy was designed to serve political or partisan ends.

The second question is this: was Government management used to promote the political fortunes of the party or a party leader? Here again there is difficulty in differentiating between motives. The goal of the Administration was to surpass all records in transportation efficiency. A successful result would be to add directly to the effectiveness of our participation in the world war and to shorten its duration. Indirectly too, it would add to the prestige of the political party and the leaders then in power. While there were indications here and there that the Administration was not unmindful of the political fortunes of the party or its leaders, these considerations were kept in the background and had little or no effect on general policies. As a sidelight on this question, it is pertinent to call attention to the fact that political considerations had nothing whatever to do with the selection of the officers or employees of the Administration. The men were chosen solely on the ground of fitness. No questions were asked as to political affiliations. It was peculiarly a case where the office sought the man.

The third question has to do with the published statements pertaining to transportation achievements and financial results. Was there any tendency to color the operating statistics or to adjust or manipulate the figures in order to improve the showing? Was there any tendency to refrain from facing the real financial situation or to put off the day of reckoning?

So far as the statistics of physical operation were concerned, the Administration's policy was

one of publishing and distributing the complete figures month by month in much greater detail than had ever before been attempted. Nothing was held back. The same is true as to the statements of financial results, with the one exception that during the closing months of the federal control period there was a disposition to minimize the extent of the actual deficit by ignoring the element of undermaintenance and other claims against the Government. During Mr. McAdoo's term of office there was a disposition to magnify the extent of savings made possible through unified control, and in the latter part of Mr. Hines' term of office there was a tendency to overdo in "explaining away" certain unfavorable features. It was natural enough that the Administration should desire to place the situation before the public in the best possible light. At times the coloring was carried to extremes, but there cannot be the slightest suspicion of deliberate manipulation with intent to deceive.*

The fourth question bears upon rates and service. Did the railroad administration adjust or manipulate rates under pressure from individuals and localities, or improperly discriminate in rates or service against individuals or localities? It may be stated with assurance that no such improper discrimination was practised. Exception might be taken here and there in specific cases, as, for example, to the rate adjustments which fa-

*"The Railroad Administration has erred more frequently in over-statement than in under-achievement." *The American Railroad Problem*, I. L. Sharfman, p. 144.

vored the Southern ports at the expense of North Atlantic ports; but the consensus of opinion of disinterested traffic experts is that the Administration's action in that and in other cases was justified from the national viewpoint. On the whole, it is the writer's opinion that an honest effort was made in all adjustments and changes to treat individuals and localities fairly without regard to political effect.

Finally, we may ask ourselves whether the recent experiment in federal control affords an adequate test of the desirability of a permanent policy of public ownership and management. The answer is plainly in the negative. The results in 1918 were favorable. In 1919 they were unfavorable. They were favorable in 1918 because at that time we were actively engaged in war, every influence of patriotism supported the Railroad Administration, and the organization was held at concert pitch by the critical military needs. The unfavorable results in 1919 may be attributed in greater part to the pronounced reaction from war-time strain, to the serious decline in traffic, and to the disintegration of the organization in a too prolonged closing period. No one should question the expediency of the Government's action in taking the railroads in the emergency. The centralization of power and the more effective coordination with other branches of the Government in the crisis made possible results in the effective utilization of equipment and facilities which would have been much more difficult under private management. But it is not proper to treat that part

of the period as the test of what might be expected under normal conditions. As regards the unfavorable year 1919, it would be as unfair to make that a test of Government operation as it would be to take the present period of subnormal traffic and disturbed economic conditions as the final test of private management.

Those who advocate nationalization and look upon the results of both years as favorable to Government operation must concede that they are to be credited to railroad men who rose to the emergency. The proponents of nationalization who are disappointed in the results of the two years attribute the failures to the fact that the real management during the greater part of federal control was in the hands of men who were brought up under private management and who, therefore (from the viewpoint of nationalization), could not or would not avail themselves of the advantages of unification.

It is plain, therefore, that nothing definite can be proved from the results of 1918-19. A real test of Government operation is possible only if carried on over a longer period—one in which business conditions are normal and in which political expediency would have normal play. The period under review was so abnormal that the results are valueless as guides to what might be expected from similar control or complete Government ownership when normal conditions return. As it is not the purpose of this book to discuss the broad question of railway nationalization, the subject will not be pursued further here.

CHAPTER XXI

THE TRANSPORTATION ACT OF 1920

THE main purpose of this book is to record the reasons for and the results of federal control of railroads during the war period. With that record, however, should go a brief review of the more important and outstanding features of the reconstruction period.

Federal control of railroads terminated at 12:01 a. m., on March 1, 1920. The return of the roads to private management was accomplished under the terms of the Transportation Act. That Act was the final result of more than one year's active consideration by Congress of the whole railroad problem. The hearings before the appropriate committees began early in 1919, but the Act was not approved by the President until February 28, 1920, a day before it became effective.* Many plans were proposed for adoption by Congress, and the discussion before the committees and on the floors of Congress attracted wide public attention.

*The Cummins bill was reported to the Senate on October 23 and was passed on December 20. The Esch bill was reported to the House on November 10 and was passed on November 17. The conference bill was reported on February 18, passed by the House on February 21, and by the Senate on February 23. President Wilson approved the Act on February 28.

The bills first passed by the two branches of Congress differed in many important respects, but these differences were finally harmonized in joint conference. Strong opposition to the joint bill was voiced in Congress, particularly by the representatives of labor and by the proponents of nationalization. The former advocated the Plumb Plan which contemplated Government ownership combined with operation by a joint board composed of representatives of railroad management, the employees and the public. The latter vigorously opposed a return to private operation in any form and urged Government ownership as the ultimate solution.

In the effort to defeat the joint bill, great pressure, in threats of political punishment, was exerted by the labor unions upon individual senators and congressmen. When the bill was finally passed by both branches of Congress, that pressure was brought to bear upon President Wilson. But public opinion, in its reaction against Government rule during the war period, overwhelmingly insisted upon the termination of federal operation of railroads, unmistakably opposed any form of Government ownership, and demanded an early return of the railroads to their owners for private operation with its free play of competition. In these circumstances Congress and the President responded to public opinion at large, and the Transportation Act became law over the protests of organized labor and other advocates of nationalization.

The Act amended in some respects nearly every section of the existing Act to Regulate Commerce.

It gave the Interstate Commerce Commission greater control over rates and service, routing of freight, extensions, abandonments and consolidations of lines, and joint use of terminals and equipment. It also vested the Commission with greater powers in determining the divisions of through rates on interline traffic between the carriers participating in the haul.

It is not necessary here to go into the details of these amendments.* This review will be confined to the four outstanding features, viz.:

(1) The provisions for the orderly transition from federal to private control;

(2) The new rule of rate-making;

(3) The provisions for railroad consolidations;

(4) The creation of the Railroad Labor Board.

During the 26 months of federal control there were serious dislocations in the normal flow of traffic and much disturbance in operating and financial features from the viewpoint of the individual companies. Serious doubts were entertained whether many carriers could successfully stand the shock of the change, and there were fears that general financial embarrassment might follow the cessation of payment of the Government rentals which the companies had received during federal control. To avoid disaster of that kind the Act provided for a six months' transition period (commonly referred to as the guarantee period) in which the properties would be operated

*An excellent review will be found in "*Railroads and Government*," by Professor Frank Haigh Dixon, 1922.

by the companies with their individual organizations under a guarantee that the Government would make up the difference between what the railroads individually earned during the six months, and one-half of the average annual net railway operating income earned by the individual railroads during the three years ended June 30, 1917. In other words, the railroads were assured of net railway operating income equal to the rentals paid by the Government during the period of federal control. During the six months the railroads would be relieved of immediate financial worries, they could adjust themselves to changed conditions, and the Interstate Commerce Commission and the newly created Railroad Labor Board could proceed in an orderly manner to revise the rate and wage scales in the light of postwar conditions. The situation is clearly stated by Professor Dixon:

"It was evident that the problem of the immediate future could not be solved by a mere withdrawal of the Government from the scene of operations. One glance at the income account would have disposed of any such supposition. Some provision must be made by which earnings should cover expenses, if financial disaster was to be warded off, and, more than this, the confidence of the financial community must be restored if credit was to be available to all for the pressing capital requirements that had perforce been laid one side during the war and its aftermath. On the operating side there was much to be done to transform a nationally conceived organization into efficient individual operating units. Labor organization and morale had to be reconstructed. Equipment scattered to the far ends

of the country was to be returned to its owners. If the statements of officials are to be accepted, there was an enormous amount of maintenance work to be done, both on road and equipment, before facilities could be restored to pre-war standard. These difficulties of the transition stage were responsible for the granting of the 'guarantee period.' "*

The new rule for rate-making may be considered as the heart of the Transportation Act. Its adoption marked a new era in the relations between the carriers and the Government. The fundamental difference between the new law and that which it superseded is that the Transportation Act couples some degree of responsibility with the authority to control. All previous laws, essentially corrective and punitive, gave the regulating bodies authority to control, but charged them with practically no responsibility for the effects which such regulation might have upon the carriers. Designed to correct and to punish, it mattered little if under the operation of the law, earning power was dangerously lowered. The burden of proof was placed entirely upon the carriers.

The new law constructively recognizes the fundamental principle that the power to correct and punish a railroad must be exercised also to protect the railroad as well as the public. All of the powers in earlier laws to insure reasonable rates, and to prevent discrimination or abuse of managerial power, are retained in the 1920 legislation, and the control over service and finance is much strengthened. But coupled with that extended

* *Railroads and Government,* F. H. Dixon, p. 213.

authority and power is the mandate that the rate scales shall be established so that, "under honest, efficient and economical operation," the carriers as a whole or by groups may "as nearly as may be" earn a reasonable rate of return upon the value of the properties held for and used in the service of transportation. While this principle had on several occasions been recognized by court decisions it has now for the first time been affirmatively written into a federal statute.

The Transportation Act recognizes further that the carriers should be enabled to earn a reasonable rate of return so that they may enlarge their facilities, "in order to provide the people of the United States with adequate transportation." This is in the interest of the shipper and the traveler as well as in the interest of the carriers, as the public is as much concerned in the adequacy of service as it is in the rates charged for that service.

So much for the spirit of the new rule of rate-making. Its text needs but a brief summary here. The important details are:

(a) Rates are to be established from the viewpoint of the carriers as a whole or as a whole by territorial groups to be designated by the Commission, but the Commission is given reasonable latitude to modify or adjust any particular rate which it may find to be unjust or unreasonable, and to prescribe different rates for different sections of the country.

(b) The rate structure as a whole, for the railroads as a whole or by territorial groups, is to

be established so as to yield an aggregate annual net railway operating income equal, as nearly as may be, to a fair return upon the aggregate value of the railway properties held for and used in the service of transportation. A fair return, for the first two years, or until March 1, 1922, was set at 5½%, but the Commission, in its discretion, might add thereto a sum not exceeding one-half of one per cent on such aggregate value to make provision in whole or in part for improvements, betterments or equipment chargeable to capital account.* In determining the value of the properties the Commission is permitted to utilize the results, "in so far as deemed available," of the work under way since 1914 by its Bureau of Valuation, and "shall give due consideration to all the elements of value recognized by the law of the land for rate-making purposes." To the property investment account, i. e., the "book value," the Commission is to give "only that consideration which under such law it is entitled to for rate-making purposes."

(c) In establishing rates to yield the specified return on property value the Commission is required to take into account the honesty, efficiency and economy of operation, and to allow for reasonable expenditures for maintenance of way, structures and equipment.

(d) If a carrier earns in excess of 6% on property value during the first two years of operation

*The rate increases of 1920 were designed to yield net railway operating income equivalent to the full 6% on property value. In 1922 the Commission, in exercising its discretion under the Act, reduced the rate of return to 5¾%.

under the Act, one-half of such excess shall be placed in a reserve fund, and one-half shall be paid to the Commission for the purpose of establishing and maintaining a general railroad contingent fund. The railroad's reserve fund may be drawn upon only to pay dividends (at regular rates) or interest charges and rentals in years when it fails to earn 6%, but when the fund has grown to a sum equal to 5% on its property value, the excess in the fund over that sum may be used by the carrier for any lawful purpose. This new principle, commonly referred to as the "recapture clause," is designed to ease the problem of the Commission in fixing competitive rates for the strong and the weak roads, so that a basis which will enable the weak to survive will not unreasonably fatten the strong. As is stated in the Act: "....it is impossible....to establish uniform rates upon competitive traffic which will adequately sustain the carriers which are engaged in such traffic and which are indispensable to the communities to which they render transportation, without enabling some of the carriers to receive a net railway operating income substantially and unreasonably in excess of a fair return." Hence the provision under which the Government recaptures one-half of the excess and ties a string to the remaining half retained by the carrier.* The general railroad contingency fund, to be made up of recaptured excess earnings, is to be administered by the Commission in its discretion as a revolving fund, either in making loans to carriers to meet expen-

*This clause is vigorously opposed by a few of the prosperous roads and its constitutionality is likely to be tested in the courts.

ditures for capital account or to refund maturing securities originally issued for capital account, or in purchasing transportation equipment or facilities to be leased to carriers. A carrier applying for a loan must satisfy the Commission of its ability to repay the loan in the specified time, and must pay an interest rate of 6%.

(f) In determining the percentage which the net railway operating income shall bear to the property values of the carriers as a whole or by territorial groups the Commission "shall give due consideration among other things to the transportation needs of the country and the necessity.... of enlarging such facilities in order to provide the people of the United States with adequate transportation." This clause couples responsibility for results with authority to regulate.

Closely connected with the rate-making rule is the section of the Act providing for railroad consolidations. It will be noted that the statutory rate of return specified by the rate-making section applies only to the roads as a whole or by territorial groups. It does not apply to individual carriers. If a carrier earns in excess of 6% it must share such excess equally with the Government. If it earns less than 6% it has no remedy.* There is a current misconception that each railroad is *guaranteed* a statutory rate of return. As a matter of fact there is no *guarantee* either for the roads individually or collectively. The Com-

*The "fair rate of return" was reduced to 5¾% by the Commission in 1922.

mission is required merely to establish rates so that the return for the roads, as a whole or in territorial groups, *as nearly as may be,* shall equal the prescribed statutory rate. If in the exercise of its judgment the Commission errs on the side of inadequacy in rates, or if other conditions, such as a business depression or a strike, adversely affects earnings and the net income is less than the statutory rate of return, the railroads are given no means of collecting the deficiency. Nor is the rate scale to take account of the needs of individual carriers. It is to be based on the requirements of the roads as a whole or in territorial groups. Even if the rates yield 6% on the aggregate value of all of the carriers in a group, some of them will earn more than 6% and some will earn less, depending upon their individual earning power and its relation to their property values. It is impracticable to establish competitive rates to meet the income requirements of a single road in competitive territory. The rates must be uniform for all competitive traffic. Under any uniform scale of rates there will be wide differences in the earning power of the weak and the strong roads.

The problem of the weak road has always been a difficult one in rate regulation. Recognizing the fact that the new rate-making rule cannot operate successfully so long as there are substantial differences in the earning power of the two groups of carriers, commonly referred to as the strong and the weak, Congress, in framing the Transportation Act, laid down the principle, (in addition to

the recapture of a part of excess income) that disparity in earning power shall be removed by a process of merging the weak with the strong. The law aims toward the ultimate merging of the railroads, so that instead of a large number of separately owned and operated properties varying widely in mileage and in earning power, there shall emerge a small number of systems of fairly equal size and financial strength.

When the two branches of Congress were considering the whole subject in 1919 the Senate bill provided that such consolidations should be compulsory. The House bill, however, contained no reference to the subject. In joint conference the view of the Senate prevailed, but in a modified form. The Act as finally passed calls for consolidations, but they are to be made voluntarily. The compulsory feature was eliminated. Section 5, paragraphs 4 and 5, of the Act reads as follows:

"The Commission shall as soon as practicable prepare and adopt a plan for the consolidation of the railway properties of the continental United States into a limited number of systems. In the division of such railways into such systems under such plan, competition shall be preserved as fully as possible and wherever practicable the existing routes and channels of trade and commerce shall be maintained. Subject to the foregoing requirements, the several systems shall be so arranged that the cost of transportation as between competitive systems and as related to the values of the properties through which the service is rendered shall be the same, so far as practicable, so that these systems can employ uniform rates in the movement of competitive traffic and under efficient management earn

substantially the same rate of return upon the value of their respective railway properties.

"When the Commission has agreed upon a tentative plan, it shall give the same due publicity and upon reasonable notice, including notice to the Governor of each State, shall hear all persons who may file or present objections thereto. The Commission is authorized to prescribe a procedure for such hearings and to fix a time for bringing them to a close. After the hearings are at an end, the Commission shall adopt a plan for such consolidation and publish the same; but it may at any time thereafter, upon its own motion or upon application, reopen the subject for such changes or modifications as in its judgment will promote the public interest."

As has already been noted the Commission is without power to enforce its recommendations, although its approval of voluntary consolidations on any scale, large or small, must be secured before they may become effective. Under the law the Commission must rely entirely upon the pressure of public opinion to support any affirmative proposals looking toward systematic consolidations. Inasmuch, however, as the principle of consolidation is vital to the permanent success of the new policy of rate regulation, it is probable that strong public pressure will be brought to bear upon those who for selfish reasons may hold out against the adoption of a plan which appears to be in broad public interest. It is probable that a test case will be submitted to the courts before any comprehensive plan can be carried out, and that additional legislation will be found advisable or necessary.*

*Chapter XXIV describes what has been done by the Commission in connection with consolidations up to July, 1922.

Nearly all of the several plans considered by Congress prior to the passage of the Transportation Act had some provision to govern the relations between railroad management and employees. The close connection between railroad wages and railroad rates under the new rule of rate-making, invested the former with a public interest nearly as great as that in rates. The public is vitally interested also in the prevention of labor disputes which may cause interruptions of traffic. The strike threat of the train service brotherhoods in 1916 (withdrawn only after Congress and the President had capitulated in passing and approving the Adamson Act), the serious threats of strikes late in 1917 when the nation was engaged in war, and the several strikes of the shop crafts (without the sanction of their national officers) during the summer of 1919, led to an insistent demand that federal legislation should guard against further contingencies of the kind by investing a Government tribunal with power to determine wages and to establish working rules. A proposal which had general support was that the power be lodged with the Interstate Commerce Commission so that the body which established rates could also control the major element in operating expenses, a highly important factor under the new rule of rate-making. The view of those who opposed that plan, because it might overburden the Commission, prevailed, and the final bill provided for a separate and independent tribunal to be known as the Railroad Labor Board.

Mention should be made of the fact that the Cummins bill, passed by the Senate, contained drastic provisions which were aimed to prohibit railroad employees from striking. The possibility of compulsory arbitration aroused intense opposition from organized labor and the compulsory arbitration feature disappeared in joint conference.

The Railroad Labor Board consists of nine members, three each representing the management, the employees and the general public. All are appointed by the President, subject to consent of the Senate, but the President is required to select his appointees for management and labor from a list of nominees submitted to him by the respective parties.

The primary functions of the Board are to determine wages and working conditions, and to decide controversies involving grievances or the interpretation of rules when such controversies cannot be adjusted by Boards of Adjustment which may be created under the Act. In determining the justness and reasonableness of wages the Board is required, so far as practicable, to take into consideration among other relevant circumstances:

(1) The scale of wages paid for similar kinds of work in other industries;

(2) The relation between wages and the cost of living;

(3) The hazards of employment;

(4) The training and skill required;

(5) The degree of responsibility;

(6) The character and regularity of employment;

(7) Inequalities of increases in wages or of treatment, the result of previous wage orders and adjustments.

The Board has broad powers to require the appearance of witnesses and the production of books or other documents and records, but it has no power to enforce its decisions. All that it can do is to make public its findings and rely upon public opinion to enforce their observance.

As organizations auxiliary to the Labor Board, and subordinate to it in that the findings of these auxiliary bodies are subject to review by the Labor Board on appeal, the Transportation Act provides for the creation of Railroad Boards of Adjustment to be established by agreement between any carrier, group of carriers, or the carriers as a whole, and any employees of carriers or organization or group thereof. These Boards of Adjustment are to deal with disputes involving grievances, rules and working conditions which the individual carriers are unable to settle direct with their employees. If these Boards of Adjustment fail in their efforts to adjust the dispute, it may be carried on appeal by either party to the Railroad Labor Board. The object of adjustment boards is to relieve the Labor Board of the vast amount of detail connected with the many minor disputes which inevitably arise in railroad operation, so that the Board may have more time to devote to the larger matters of

wages and general working rules. The Act provides (Section 301):

"It shall be the duty of all carriers and their officers, employees and agents to exert every reasonable effort and adopt every available means to avoid any interruption to the operation of any carrier growing out of any dispute between the carrier and the employees or subordinate officials thereof. All such disputes shall be considered and, if possible, decided in conference between representatives designated and authorized so to confer by the carriers, or the employees or subordinate officials thereof, directly interested in the dispute. If any dispute is not decided in such conference, it shall be referred by the parties thereto to the board which under the provisions of this title is authorized to hear and decide such dispute."

A decision of the Labor Board shall not be valid unless it is concurred in by at least 5 of the 9 members and unless one of the 5 is a representative of the public. The central offices of the Board are required to be in Chicago, but the Board may, whenever it deems necessary, meet at such other place as it may determine.

No provision is made in the Act for the coordination of the functions of the Labor Board and the Interstate Commerce Commission. Each acts independently of the other except in so far as they may voluntarily confer on matters of joint interest. It is hardly necessary to mention that there is a close relation between railroad wages and railroad rates and that there should be active cooperation between the two bodies. Rates are now based on an adaptation of the "cost of service" principle. Once a rate scale is established by the Commission its equilibrium may be de-

stroyed by any general advance or reduction in wage scales. The only reference to rates in the Labor Board section of the Act is that which authorizes the Board to suspend any wage settlement made locally between management and employees if the Board "is of the opinion that the decision involves such an increase in wages or salaries as will be likely to necessitate a substantial readjustment of the rates of any carrier. The Labor Board shall hear any decision so suspended and as soon as practicable and with due diligence decide to affirm or modify such suspended decision." Inasmuch as the rate-making section contemplates that the rate scale is to be established for the carriers as a whole or in a territorial group, it is not clear how a wage adjustment by a single carrier can be made the basis for an increase in the rate scale of that single carrier.

The foregoing summary of the Transportation Act is intended merely to outline its principal features. The action of the Interstate Commerce Commission and the Railroad Labor Board, in compliance with the requirements of the Act, during 1920, 1921, and the first half of 1922, are summarized in the following chapters.

CHAPTER XXII

RAILROAD EVENTS IN 1920

NO single year in railroad history has contained so many unusual features as 1920. Within it were embraced the concluding two months of federal control, the six months of the guarantee period when the railroads were operated by their owners under a continuance of the guarantee of pre-war net railway operating income, and four months of private operation when the railroads were entirely "on their own." The year ushered in a new rule of rate-making under the Transportation Act, and a new era in labor relations with the Railroad Labor Board dominant in wage-fixing and the formulation of working rules.

Before the Labor Board was fully organized and working effectively there were several serious strikes among the more radical workers who would not wait for the Board to decide the pending wage demands. These strikes were not authorized by the executive officers of the unions affected, and the striking employees, who were "outlawed" by their unions, formed a new but short-lived union of their own. The year witnessed also exceedingly large increases in freight and passenger rates, and in railroad wages. Coupled with these conditions there was a sudden

and unprecedented growth in traffic which seriously taxed the railroads' carrying capacity and yielded gross revenues greater than had ever before been earned in a single year.

In fact, the year 1920 was one of superlatives. It had the greatest traffic, the largest operating revenues, the heaviest operating expenses, and the smallest net railway operating income since the Interstate Commerce Commission (in 1888) began to compile railroad statistics on a national scale.

The transition from federal to private control was accomplished with but little shock or confusion. The continuation of the Government guarantee of pre-war net income gave the railroads time to put their financial affairs in order and to reorganize their forces for individual operation under competitive conditions. The tendency was to discontinue most of the unification and other measures adopted by the United States Railroad Administration, and to restore the general order of things as they had existed in 1916. Traffic-soliciting agencies, advertising, and other activities of a competitive nature were resumed on an effective scale. So far as it was practicable to do so the railroads entered upon maintenance programs which were designed to make up a part of the work deferred in 1917 and during federal control.*

*Under the terms of the Transportation Act the carriers, during the 6 months' guarantee period were restricted to expenditures no greater than those of the test period equated for the higher wage and material costs of 1920. Expenditures in excess of that maximum were not to be taken into account in determining the amount of the guarantee to be paid by the Government.

In one important respect other than in physical condition the railroads which were turned back to their owners on March 1, 1920, were not the same railroads which were taken by the Government on January 1, 1918. The corporate officers found a profound change in the morale of the working forces. This subject has already been dealt with in Chapter XVII. Further discussion here is unnecessary.

Within a week or two after the passage of the Transportation Act with its new rule of rate-making the Interstate Commerce Commission invited the railroads to an informal conference on rate increases. It will be recalled that the need for substantial advances in rates to meet the greatly increased operating costs had been recognized during the last year of federal control, and that the railroad executives, looking forward to the return of the roads (as announced by the President), had appealed to the Director General to exercise his authority and initiate rate increases which would place the railroads on a self-sustaining basis when private operation would be resumed. The Director General, however, decided in October that no further rate increases would be made during the period of federal control, believing it to be in public interest to incur a deficit from operation to be met from general taxation rather than run the risk of disturbing commodity prices by a further inflation of transportation charges.* He held to the view that

*See Chapter XIV.

the needs of the railroads after the termination of federal control should be decided by the Interstate Commerce Commission under whatever plan Congress might adopt in the meantime, but in order that the railroads might be prepared to present their case intelligently to the Commission when private control was restored, he placed his traffic organization at the disposal of the corporate officers to assist in preparing the railroads' petitions.

When the Commission entered upon its new duties, as defined by the Transportation Act, the railroads had already made studies from which their revenue needs were estimated, and they were therefore prepared to respond to the Commission's invitation to a conference on the subject. The first point to be decided was that of territorial groupings. The railroads suggested that the rate scales should be established for but three districts, corresponding to existing freight classification territories, viz., Eastern, Southern and Western. This recommendation was adopted by the Commission with one modification. The Western district was reduced by the exclusion of the roads west of Colorado common points and those roads were designated as the Mountain-Pacific group.

In the formal hearings which followed the informal conference the railroads presented their petitions for rate increases which, based on the volume of traffic during the year ended October 31, 1919, and the operating expenses of March 1, 1920, would yield 6% on the property investment

accounts of each group of carriers. Before the Commission had reached a conclusion the Labor Board announced general wage advances, effective from May 1, and the Commission then invited the railroads to submit revised estimates which would take the higher wage rates into account.

The property investment account, or "book value", was used by the railroads as their property value because the data then available in the Commission's Bureau of Valuation were not sufficiently complete to be employed as the basis for the roads as a whole. In the small number of cases in which tentative values had been found for individual systems those values corresponded closely to the property investment accounts.

In its decision of July 29, 1920, the Commission authorized substantially what the Eastern district roads had asked, but withheld a part of the rate increases requested by the Southern and Western carriers. Passenger rates were advanced uniformly (about 20%) throughout the country. Parlor and sleeping car fares were also advanced uniformly but in greater degree. Freight rates, with certain exceptions, were increased 40% in the East, 25% in the South, 35% in the West, and 25% in Mountain-Pacific territory.

The cut in the requested increases in the South and West was the result of writing down the property investment account as the basis for property value. The railroads as a whole had asked for rate increases which would yield 6% on the property investment account of slightly more than $20,000,000,000. Without indicating

clearly how it arrived at a lower valuation, the Commission assumed a property value of $18,900,000,000, or about $1,100,000,000 less than the book value presented by the carriers. This reduction was equivalent to reducing the estimated return from 6% to 5.7% *on the property investment account*. The railroads had asked for rates which would yield net railway operating income of approximately $1,200,000,000. The Commission's award was intended to yield about $1,134,000,000.

The new scale of rates became effective on August 28, 1920, three days before the expiration of the guarantee period and the complete resumption of private control.

The newly created Railroad Labor Board did not start out auspiciously. Shortly after the Transportation Act was passed, the President invited the railroad executives and the railroad labor unions to nominate several candidates. The nominations were sent in promptly, but there was much delay in making the appointments. When finally presented to the Senate they were quickly approved, on April 15, a month and a half after the passage of the Act.

In the meantime there was acute unrest and agitation among the employees whose wage demands, presented to the Director General during the previous summer, had been held in abeyance to be acted upon by the board to be created under the then pending legislation. Early in March the President attempted to settle the controversy by bringing together the railroad executives and the labor leaders, but nothing came of the effort.

The Labor Board had hardly been organized and begun its hearings when much pressure was exerted upon it to hasten its decision. Two of the public members of the board had had no previous experience in railroad wage matters and the organization had not had time to find itself. Considering the magnitude and ramifications of the demands from practically every class of employee, the important bearing the decision would have upon freight and passenger rates, and the efforts to stampede the board into a hasty decision, the difficulties of the task may be comprehended. While the hearings were under way, and when the board was in executive session, there were numerous "outlaw" strikes among yard employees. These hampered the flow of traffic and caused serious congestions.

The decision of the Labor Board, which was announced on July 20, 1920, and made retroactive to May 1, carried with it an annual increase of about 22% for all classified employees. It had the effect of adding more than $600,000,000 per year to the railroad payroll. These increases were announced while the Interstate Commerce Commission was considering the petitions of the carriers for rate advances, and were taken into account in estimating operating expenses as an element in the rate adjustments.

During the remainder of 1920 the Labor Board was kept busy with matters other than wages. A sharp difference in opinion was manifested in the matter of creation of boards of adjustment. It will be recalled that the Act says that such

boards *may* be created. Their establishment is not mandatory. Moreover the Act says that they may be organized by individual systems, by regions, or for the country at large.

The unions affiliated with the American Federation of Labor* (shop crafts, switchmen, telegraphers, stationmen, maintenance of way men, signalmen and a few others) held out tenaciously for national boards. Among the railroad executives there was a diversity of view. A few were willing to concede the principle of national boards, a larger number preferred regional boards, but the majority insisted upon local boards. The view of the majority prevailed in railroad representation before the Labor Board and the issue was clean cut—national versus local boards of adjustment.

The reasons for the insistence of the unions upon national boards is obvious. They desired centralization of control and preferred that all questions of wages and working rules should be approached from the national rather than a local viewpoint. During the period of federal control the centralization of power in Washington enabled the organizations more effectively to control the situation and to safeguard their national interests. Conversely, it weakened the influence and prestige of the railroad officials locally. Obviously also, the principle of local boards was favored

*It was with these unions that Director General Hines executed the national agreements during the closing months of federal control.

by railroad officials because of the serious effect of centralization upon the relations locally. It is easier to keep up the morale and to sustain discipline if differences may be settled by "home rule" rather than by a distant court.

In this controversy the train service brotherhoods took no active interest. There was apparent indifference on their part as to whether the boards should be national, regional or local. So far as these brotherhoods were concerned the creation of system boards, the universal practise in train service before federal control, appeared to be satisfactory to the leaders.

During the negotiations the establishment of regional boards was suggested but was not acceptable to the shop crafts and affiliated unions. Their national agreements were prized too highly to risk any abridgment of their scope by local agreements. The Labor Board held that the matter was one for settlement between the railroads and their employees and that it was not before the Board for determination.

As the question stood in July, 1922, nothing whatever had been done except in the case of the train service employees who had on several systems joined the managements in the creation of boards of adjustment with jurisdiction in disputes affecting enginemen, conductors, firemen and trainmen (including yardmen where such employees belonged to the Brotherhood of Railroad Trainmen instead of to the Switchmen's Union). On the Pennsylvania System, boards were established for practically all employees, but they were

not recognized by the executive officers of the unions, they were frowned upon by the Labor Board, and their legal status was uncertain. The continued insistence of the unions upon national boards was an issue in the nation-wide strike of shopmen which began on July 1, 1922.

An agreement between the railroads and all of the classified employees as to these adjustment boards would have been welcomed by the Railroad Labor Board. In the absence of adjustment boards, the Labor Board was called upon to hear and decide a large volume of disputes and grievances, many of them trivial. These took much time which might better have been devoted by the Board to the larger and more important questions which the Board was created to consider and decide.

The fall of 1920 brought with it an unexpectedly large volume of traffic, and the transportation performance of the railroads exceeded all previous records, including that of 1918 when the United States Railroad Administration, with its war traffic, set the highest mark to that time. The railroad executives took satisfaction in their transportation achievement, as it was accomplished in spite of the impaired physical condition of freight cars, roadway, and structures. As was stated in Chapter XV, the condition of freight cars had deteriorated during federal control, the normal rate of car renewals had not been kept up, and there were serious deficiencies in the rate of renewals of ties, rails and ballast.

The traffic record of the latter part of the year was a happy omen for restored private control. Rates had been increased presumably to take full account of higher wages and operating costs. The greater volume of traffic, under the law of increasing returns, meant lower unit costs and greater net income. The immediate future seemed to hold out promise of much needed financial relief.

Yet the financial results of the year's operations were disappointing. While 1920 had the largest operating revenue in railroad history, the operating expenses were so much more than were anticipated that one has to go back more than 35 years, when railroad mileage and investment were but a fraction of those of 1920, to find a year with less net income.

In order to earn 6% upon the property value tentatively assumed by the Interstate Commerce Commission as the basis for rate-making in 1920, the net railway operating income should have been $1,134,000,000. It actually was $62,000,000,* a return of but 0.3% on property value. Few roads actually earned dividends, the majority did little

*This figure is what the railroads actually earned. The companies, however, were paid the Government standard return for the last two months of federal control, and had the Government guarantee of test period net income during the six months of the transition period. From the corporate viewpoint the financial results were much better than the net railway operating income of $62,000,000 indicates, but the fact remains that the railroads actually earned only that amount from operation. Taking account of certain "lap over" items which belonged in the accounts of 1918 and 1919, the net railway operating income as finally reported for 1920, was but $22,000,000, or but 0.1% on property value.

better than earn their fixed charges, and a substantial number failed to earn their operating expenses and taxes.

The startling lack of earning power in 1920 was the result of several causes. Among them may be listed the effect of the transfer from federal to private control, the serious "outlaw" strikes in April and May, the efforts to "catch up" on deferred maintenance, the substantial wage increases which took effect four months before the rate increase began to add to revenues, and the national agreements which applied to payroll expense throughout the entire year. The higher freight and passenger rates were in effect only during the last four months of the year, but the new wage rates applied to the operating expenses of eight months, and the higher fuel and other material costs burdened expenses throughout the entire twelve months.

A comparison of railroad operating performance in 1920 with that of 1916, the year before the United States entered the war, is of interest. Such questions as these may be answered. In what respects were there differences in trackage and equipment? What was the total transportation product in the two years? What was the relative degree of train operating efficiency? To what extent did rate advances keep pace with rising costs? In what elements of expenses did the greater increases occur?

In so far as trackage and equipment are concerned the differences between 1920 and 1916 were

slight. The normal rate of additions and betterments to railroad property, arrested early in the last decade by the diminishing rate of return upon railroad investment, was almost stopped when the European war started in 1914,* and when the United States entered the conflict in 1917, it was financially impracticable to resume it. The few additions made to railroad facilities during the period of federal control were dictated in the main by the needs of war traffic. The road miles of Class 1 companies in 1920 were but 2% more than those of 1916, and the miles of total trackage (including additional mains, sidings and yards) were but 4% greater. As to equipment, the situation was but little different. The number of locomotives available in 1920 was about 6% greater than in 1916. The number of freight cars had increased about 2½% and the number of passenger cars was about 3½% greater. It should be noted, however, that both as to locomotives and cars the normal rate of retiring those of obsolete type had not been maintained during the four-year period, and the inventory of 1920 contained many units of equipment which were inefficient and which normally would have been replaced several years earlier by new units of modern design.

Having in mind the relatively slight increase in trackage and equipment it is interesting to note that the railroads in their first year of resumed private management produced 21% more revenue

*See Chapter II, page 19.

ton-miles and 39% more passenger-miles than in 1916, the pre-war year taken for comparison. The revenue ton-miles of 1920 were 410,306,000,000. In 1916 they were 339,870,000,000. The passenger-miles of 1920 were 46,849,000,000. In 1916 they were 33,646,000,000. The traffic of 1920 exceeded that of 1918, the first year of federal control, in which all previous records to that time had been broken.

As evidence of the efficiency of management in 1920 it may be noted that the 21% additional ton-miles in that year were produced with relatively little increase in freight train-miles. The freight train-miles of 1920 were 594,000,000. In 1916 they were 585,000,000. The increase, therefore, was but 1.5%. This favorable performance was made possible by better car loading and better train loading. The average car-load increased from 22.41 tons in 1916 to 26.72 tons in 1920, and the average train-load increased from 545 tons to 647 tons.

The 1920 train efficiency was even more striking in the passenger service, but in this case it called for some sacrifice on the part of the traveling public. The increase of 39% in passenger-miles was accomplished with actually less passenger train-miles. The mileage of passenger and mixed trains in 1920 was 587,000,000. In 1916 it was 599,000,000. This saving was the result of reducing competitive service and of cutting off trains that were not paying their operating expenses. Drastic reductions were made during federal control so as to release trackage and equipment for

the more important freight service. While many of the discontinued trains were restored in 1919 and 1920, the time tables of 1920 had actually less trains than in 1916. In 1920 the average passenger train-load was 80 passengers. In 1916 the average was 56.

With these remarkable gains in train loading it would be natural to look for lower unit costs in operation. These economies, however, had little effect in offsetting the rising costs of material and labor. Nor were these costs met by the advances in freight and passenger rates. Comparing 1916 with 1920 these, in very brief terms, were the significant results:

Operating revenues increased from $3,382,000,000 to $6,178,000,000, a gain of 82%.

Operating expenses rose from $2,211,000,000 to $5,831,000,000, an increase of 164%.

Net operating revenue fell from $1,170,000,000 to $347,000,000, a loss of 70%.

After deduction of taxes and miscellaneous items the net operating income from which interest charges and dividends are paid shrunk from $984,000,000 to $62,000,000,* a loss of 94%.

The net operating income of 1916 was equivalent to a return of 5.3% on the investment in railroad property. In 1920, with an investment 12% greater than in 1916, the return on the investment was but 0.3%.

The explanation of the alarming loss in net income is found in operating expenses. These

*See foot-note, page 246.

were seriously inflated by war prices, war wage rates, and by unfairly restrictive working rules adopted during federal control. The rules, particularly those in the national agreement, bore with exceptional force upon maintenance expenses. The abolition of piece-work in shops was another important factor.

During federal control, freight and passenger rates were increased about 25%. In the latter part of August, 1920, a further increase of about 35% was authorized by the Interstate Commerce Commission. The increases last named were in effect but four months in 1920, so that their full effect was not reflected in the average revenue per unit of service for the entire year. In 1920 the railroads collected 1.052 cents per ton-mile. In 1916 the average was 0.707 cents. The revenue per passenger-mile in 1920 was 2.75 cents. In 1916 it was 2.00 cents. These units, of course, take account both of increased rates and of changes in the nature of the traffic. They indicate that in 1920, compared with 1916, the railroads collected 49% more per ton-mile and 37% more per passenger-mile.* These, combined with the increase of 21% in ton-miles and 39% in passenger-miles, brought about the average of 82% increase in total operating revenues.

*This does not mean that the average increase in rates was but 49%. As a matter of fact it was greater. But in 1920, the commodities which move under low rates made up a greater proportion of the total tonnage. This change had the effect of pulling down the average revenue per ton-mile and of obscuring the full effect of the rate increases.

Against these increases in revenue the railroads spent 155% more in maintenance of way; 186% more in maintenance of equipment; 165% more in transportation expenses; and 164% more in total operating expenses. The relation of these changes to net railway operating income may easily be comprehended when the more important items of the income account for Class 1 railroads are shown in terms of parts of each dollar of operating revenues in each of the two years. Here is the comparison:

Item	1920	1916
Operating revenues	$1.000	$1.000
Operating expenses	.944	.654
Net operating revenue............	.056	.346
Taxes and miscellaneous..........	.052	.055
Net operating income	.004	.291
Return on property investment....	0.3%	5.3%

We need not here enter upon a full discussion of the details of operating expenses, but some of the striking features may be referred to. The effect of the higher wage rates and restrictive rules was particularly noticeable in equipment maintenance. The following figures tell their own story:

Item	1920	1916
Repairs to steam locomotives	$601,386,000	$177,186,000
Repairs to freight cars.....	593,689,000	180,784,000
Repairs to passenger cars..	100,585,000	34,545,000

These three items in 1920 were 239% greater than in 1916 and they account for over $900,000,000 of the total increases in operating expenses.

A part of this increase may be attributed to the efforts of the railroads in the latter part of 1920 to "catch up" on maintenance work deferred during the period of federal control and in 1917.

In transportation expenses the largest increase appeared in locomotive fuel, and there were heavy increases throughout the entire group of yard expenses. Enginehouse expenses, a labor item peculiarly affected by the national agreements, rose from $47,460,000 in 1916 to $170,445,000 in 1920, an increase of 259%. Loss and damage to freight showed the greatest percentage of increase among the large items—$120,663,000 in 1920, against $22,739,000 in 1916, a five-fold increase. This startling increase was due in part to the higher values of commodities lost or damaged, but was mainly the reflex of lowered morale among employees and an alarming increase in theft.

The statistics relating to employees and their compensation threw light on the whole subject. The average number of employees in 1920 was 2,012,706. The comparable figure for 1916 was 1,599,168. Their compensation in 1920 was $3,662,543,672. In 1916 it was $1,366,100,518. These figures indicate that the increase in the number of employees was 26% and that the increase in the total compensation was 168%. Stated in other terms, the 1920 labor share of revenue was 59.9 cents out of each dollar of operating revenues. In 1916 it was 40.8 cents.

CHAPTER XXIII

A REVIEW OF THE YEAR 1921

THE disappointing financial results of 1920, while discouraging to those who favored private ownership and management of railroads, did not disturb their belief in the inherent soundness of the Transportation Act nor shake their faith in the ultimate restoration of railroad earning power and ability to serve the public satisfactorily. The year 1920 could not be regarded as a fair test of the new principles of federal regulation. So many unusual features were crowded into the 12 months that it was difficult and unsafe to draw any conclusions from the results. First, there was the transfer from federal to private control. Then came the 6 months of the guarantee period which may be regarded as a form of joint control, and then came 4 months in which the railroad companies were left entirely to their own resources under a new and higher scale of rates and wages. During the guarantee period the Labor Board had advanced wages 22%. The record of the first half of the year had been marred by serious strikes among yard employees.

These and other reasons were sufficient explanation for the alarmingly low net income of 1920. It was confidently expected that 1921, a full year of operation under the new law, and

free from the first effects of the transition from federal to private control, would be encouraging and would vindicate the faith of those who regarded the passage of the Transportation Act as marking a new and better era in railroad affairs.

The results of the year, however, while much better than those of 1920, were discouraging. They failed to satisfy each of the three groups of interests which the Act was intended to protect. At the close of the year the general public was insisting that rates were too high and that they must be reduced without regard to railroad net income. Labor was aggrieved and in a rebellious mood because the Labor Board, in recognition of changed economic conditions, had taken away a part of the wage increases granted in 1920 and had eliminated or changed some of the restrictive working rules. Railroad security holders were disappointed because the net income of the roads was but slightly more than one-half of the sum which the rate increases of the previous year, under the rate-making rule of the Transportation Act, had contemplated. These security holders had had reason to expect that the properties would earn 6% on their value. The actual return was but 3.3%. The volume of tonnage was 23% less than in 1920, so that notwithstanding the substantial rate increases in effect throughout 1921, the freight revenue was 9.4% less in 1921 than in 1920. Inasmuch as the rate increases of 1920 had been predicated upon a volume of traffic greater than that which actually moved in 1921, and inasmuch further as the effect of the restric-

tive rules and the new wage rates had been underestimated, the income results of 1921 were bound to be disappointing. Of the two adverse influences the loss in traffic obviously was the more serious.

The extent of the 1920 advances in rates* startled the shipping and traveling public but the higher rates were accepted, as were other war-inflated costs, as phenomena of the period. Business was booming at the time and the effect of the greater transportation cost was not felt. In September and October 1920, the volume of freight traffic under the new rates was greater than ever before and all previous records in loaded cars per week were broken.

Beginning in December, 1920, however, a sharp recession set in, and by January, 1921, the full effect of the depression was apparent. Then it was that the demand for relief from high freight rates began to assume force. Throughout the early part of 1921 the carriers were besieged with requests for rate reductions and many such reductions were made. In the aggregate these individual downward adjustments were large but they were not general enough to meet the demand. Groups of shippers, such as those interested in live stock, building materials and agricultural products, exerted concerted pressure and the subject was given a strong political tinge. The Interstate Commerce Commission was petitioned to order general decreases, and the influence of the

*See Chapter XXII.

agricultural bloc in Congress was centered upon the Administration and the Commission.

Following the hearings upon the several applications for rate cuts, the Commission ordered reductions in the rates on live stock, hay and grain, and subsequently the railroads voluntarily offered to make a 10% reduction on all products of the farm, orchard and ranch. There was evidence that this offer was designed to mollify the agricultural bloc which had set out to cripple the Transportation Act by forcing through an amendment which would eliminate the rule of rate-making. The offer of the railroads was approved by the Commission and in the meantime, on December 14, it began a long drawn out inquiry into the broad question of railroad management and its relation to the rate scale as a whole.

The railroads contended that in view of their precarious financial condition, the rate reductions should wait until the Labor Board had acted upon the pending requests for wage reductions. During the first half of the year very few roads had earned sufficient to pay their full charges. Some carriers had barely earned their operating expenses and taxes. But the shippers insisted that the delay of the Railroad Labor Board in bringing about a liquidation in labor should not be allowed to block a prompt adjustment in a rate scale so high as, in their opinion, to restrict industry and commerce. The latter view finally prevailed when the Commission, in May, 1922, decided that a general reduction in freight rates should be made. In the meantime the Railroad

Labor Board had ordered a 12% reduction in wages and had annulled some of the restrictive rules of the national agreements.

From the viewpoint of organized labor the developments of 1921 were decidedly unfavorable. The aim of the leaders had been to retain the maximum of the concessions granted to labor under the exigencies of the war emergency and in the subsequent period of inflation. Their policy had been to resist to the utmost every effort on the part of the railroads, and the shippers' organizations (which in this matter supported the railroads), to restore the former relationship between payrolls and revenues.

It will be recalled that in May, 1920, the Labor Board, in disposing of the controversy carried over from federal control, ordered a general increase of 22% in the wages of all classified employees, and continued indefinitely all of the rules of the United States Railroad Administration, including the national agreements. This increase added more than $600,000,000 per year to the $1,000,000,000 annual increases authorized during federal control. When the bottom fell out of business in December, 1920, and the necessity for deflation became apparent, the railroads appealed to the Labor Board to restore the wage basis in effect before the advances of May, 1920, were made. Later they petitioned for the cancelation of the national agreements. Hearings were begun in January, 1921, and the proceedings dragged on for months. The Board's decision was not announced until June, when a 12% re-

duction was ordered, effective July 1. This meant a cut of about $400,000,000, and left the wage scale about 7% or 8% above that in effect at the conclusion of federal control. With this decision came also an order abrogating the national agreements in principle, but specifying that they should be continued in force until the railroads individually with their employees should be able to negotiate an agreement which would provide for mutually satisfactory substitutes. Failing to reach an agreement, the disputed points were to be referred to the Board for final decision.

This abrogation of the principle of the national agreements was ineffective. The employees, acting upon the advice of their leaders, held out for the continuation of all of the favorable rules. The inevitable result was to bring the controversy again before the Board. During the closing months of 1921 the Board decided most of the points in dispute. These applied almost entirely to the shop crafts, clerks, stationmen, signalmen, and maintenance-of-way employees. The train service brotherhoods were not affected by the national agreements. They had had individual contracts with the railroads for many years and were content to adhere to that policy. Effective December 1, 1921, a large part of the national agreements' rules which restricted output, unfairly penalized the roads for overtime, or required two or more men to do work which formerly was done by one man, were canceled.*

*The cancelation of favorable rules was one of the issues in the shopmen's strike in July, 1922.

Following the announcement of the wage reductions of July 1, most of the labor organizations polled their members to ascertain their attitude toward a strike in resistance to the wage cut. In all cases the leaders announced that the men were practically unanimous in voting to strike. Needless to say, however, a vote to strike seldom means that the voter desires that a strike be called. It is merely a vote of confidence in their leaders, so that their hands will be strengthened in negotiation. The tactics of the leaders indicated that the strike vote, which was taken on the issue of the July 1 reductions, was not taken for the purpose of striking against that award. There is little doubt that its primary purpose was to discourage the railroads from carrying out their announced intention to seek further reductions. The railroads had asked the Labor Board to restore the wage scale in effect before wages were advanced in May, 1920. To do so would have required a reduction of approximately 18%, but the Board's order called for a cut of but 12%. Disappointed in the result, the railroads allowed it to become known that they would ask their employees to accept a further reduction, and would again appeal to the Labor Board if the employees refused to agree. It was clearly evident that the talk of striking against the July award was intended to forestall further action on the part of the railroads.

The railroads, however, were not influenced by the strike talk. On October 14, they announced through the Association of Railway Executives

that they would appeal to the Labor Board to order a further reduction to restore the wage basis of April 30, 1920. This proposed move was met at once by an order from the chiefs of the enginemen, firemen, conductors, trainmen and switchmen to their membership to strike on September 30. Technically the strike was to be against the July 1 reduction and would therefore be a strike against the acceptance of a Government (Labor Board) decision.

The initiative was taken by the train service brotherhoods with the expectation that they would be joined by the other organizations, but as differences arose between the two groups, the American Federation of Labor organizations decided to hold themselves aloof and await developments. There had never been close cooperation between the "Big Four" brotherhoods and the American Federation of Labor, as the brotherhoods had never entered the Federation. Because of their policy of aloofness, the Federation executive officers had often sarcastically referred to the brotherhoods as the "aristocrats of labor."

The Labor Board, which had been criticized for its apparent lethargy up to that time, rose to the emergency and succeeded almost at the last moment in having the strike order withdrawn. While a large part of the credit for finally prevailing upon the brotherhood chiefs to rescind the strike order should go to Mr. Hooper and Mr. McMenimen of the Board, other powerful forces had dominant play. Public opinion was overwhelmingly against the brotherhoods. The five organizations

(the "Big Four" and the Switchmen's Union), numbering about 400,000 men, were acting without the active support of the other 11 important organizations whose membership was close to 1,-600,000. There was conflict even among the brotherhoods, as President Lee of the trainmen had let it be known that he was against a strike. The strike order for the trainmen was not given by him but by the chairman of the trainmen on each railroad system. While giving these chairmen a free hand to act according to the wishes of the membership, he refused to accept responsibility for the results.

The Administration had made it known when the crisis came that all of the forces of the Government would be put behind the railroads in sustaining the decision of the Labor Board and in keeping the wheels moving. Public organizations throughout the country had made elaborate preparations to do here what was so effectively done in England a short time before in a similar crisis. And finally the condition of unemployment gave the railroads an opportunity to recruit many experienced railroad men who had left the service during the war and had not been re-employed.

These opposing forces were too great to be defied. The brotherhood leaders finally backed down as gracefully as they could under an implied assurance that the Board was then so overburdened by disputes over rules, which would be given preference over petitions affecting wages, that it would be many months before it could entertain any new proposals for wage reductions.

A ruling was announced that no application for wage reductions for any class of employee would be entertained until all of the disputes over rules and kindred matters had been decided by the Board.

It may be noted here that while further reductions were subsequently (in 1922) ordered by the Board for several classes of labor, including shopmen, trackmen, clerks, stationmen, and others, no further reductions were asked by the railroads or granted by the Board for the men in engine, train and yard service. As a matter of fact there is justice in the position of the train service brotherhoods that their wages were not increased relatively as much as those of other employees during the war, and that therefore they should not be called upon to assume decreases as great as those ordered for employees whose war-time gains had been greater.

From the viewpoint of the railroad security holder the operating results of 1921 furnished ground for both optimism and pessimism. The optimistic view was that 1921 was much better than 1920. The opposite view was that the railroads, under war-period rates (which would surely be reduced by the Interstate Commerce Commission), were able to earn but little more than one-half of the sum defined by the Transportation Act as a fair return.

In the year 1921 the net railway operating income for Class 1 railroads was $615,000,000. From this amount they had to meet their rentals,

interest charges and other income deductions, pay dividends and make capital improvements. In order to earn the then statutory rate of 6% on the property values tentatively taken by the Commission in 1920 for rate-making purposes, the carriers should have earned $1,134,000,000. Instead of earning 6% they actually earned but 3.3%. The following table contains the condensed income account for 1919, compared with 1920 and with 1916. From the viewpoint of net income, the latter was the most prosperous year in railroad history.

CONDENSED INCOME ACCOUNT OF CLASS 1 RAILROADS

Calendar Year Ended December 31

Item	1921	1920	1916
Miles of railroad	234,912	235,580	230,991
	(Millions)	(Millions)	(Millions)
Operating revenues	$5,563	$6,225	$3,597
Operating expenses	4,597	5,826	2,357
Net operating revenue	966	399	1,240
Taxes and uncollectible	283	282	158
Railway operating income	683	117	1,082
Eqpt. and joint facility rents	68	55	42
Net railway operating income	615	62	1,040
Operating ratio (per cent)	82.6	93.5	65.5
Return on investment (per cent)	3.3	0.3	6.2

It is customary in reviewing the results of any one year to make comparisons with the immediately preceding year. In this case the satisfaction that was afforded to the railroads by the

marked comparative improvement in 1921 over 1920 was tempered by the fact that 1920 was the poorest year in net income since the Interstate Commerce Commission, in 1888, began to publish the aggregate figures for all railroads. The net railway operating income in 1920 was not far from zero. The year 1921, therefore, could not be viewed in true perspective by taking 1920 as the basis for comparison. It should be compared with a pre-war year. For that purpose 1916 is taken here. It was the year immediately preceding the entrance of the United States into the World War and was one in which the net results were unusually favorable.

The figures show that while the 1921 operating revenues were 55% greater than those of 1916, the 1921 operating expenses were 95% greater. The relation of expenses to revenues in the two years is shown by the operating ratio. In 1921, 82.6 cents out of every dollar of operating revenues were taken by operating expenses. The comparable ratio in 1916 was 65.5. The final result in net railway operating income was a return of 3.3% upon property investment in 1921, in contrast to a return of 6.2% in 1916.

While it is true that the 1921 results would have been more favorable if the effect of the wage cuts and the abolition of some of the restrictive working rules had applied during the entire year instead of in but part of the year, yet there is a more important factor which bears in the opposite direction. If 1921 had been charged with its full normal proportion of maintenance, the re-

turn upon the investment would have been much smaller. In the almost desperate efforts of management to trim expenses to meet the heavily reduced earnings, practically every expenditure that could be avoided was deferred. Maintenance, as a result, was neglected, both in way and structures and in equipment.

Inasmuch as the properties were returned at the termination of federal control in a sub-normal condition of repair, and inasmuch as but a part of the deferred maintenance was made up in 1920, the need for extensive and expensive maintenance programs in 1921 was pressing in nearly every element of way, structures and equipment. Such deferred work is always more costly than work done in season. There are no data from which may be computed the amount of this substantial maintenance debt of 1917-1921 to 1922 and the years which will follow, but the records give some indication of the state of equipment alone. At the close of 1921, 23% of passenger and freight locomotives were unserviceable, mainly because of needed repairs. Normally the unserviceable locomotives should not be more than 10% of the total. In the case of freight cars, 13% were unserviceable in December, 1921. The normal is from 4% to 6%. Then, too, there was the item of equipment renewals. The pre-war program of displacing the older types by new equipment had been substantially reduced since 1916. As a result, in 1921, there was much more than the normal percentage of locomotives and cars which had passed beyond their serviceable span of life and

should have been replaced by units of modern and more efficient type.

It is plain, therefore, that the 1921 showing would have been more discouraging if the year had been called upon to assume its normal proportion of maintenance and renewal costs, and if the normal amount of additions and betterments, which usually carry substantial charges to operating expenses, had been undertaken. This being true, it follows that 1922 and subsequent years will be called upon to bear burdens which should have been spread over the preceding five or six years. These burdens, too, will be much greater than if the work had been done at the proper time.

CHAPTER XXIII

THE RAILROAD SITUATION IN JULY, 1922

AMONG the problems of railroad administration at the close of the first half of 1922, four groups stood out prominently. They were: (1) finance, (2) labor relations, (3) supervising organization, and (4) public relations. The problems of finance were of greatest importance, but as each of the other three groups of problems were closely related to finance, the four will be discussed in reverse order.

During the concluding months of the period of federal control public opinion toward private management of railroads was more favorable than at any time since the beginnings of anti-railroad agitation in the early 70's. The more liberal rate-making principles of the Transportation Act, the willingness of the Government to recognize the fact that reasonably adequate earnings were necessary, not only for the railroad companies, but also for the public which depended upon railroad service, were the reflex of that favorable attitude. The public had not been pleased with the experiment in governmental control, particularly during the period following the signing of the armistice, and there was a general disposition to encourage and support the railroad executives in their efforts to restore normal service when pri-

vate operation was resumed. The friendly attitude continued throughout the greater part of 1920, but a change set in after the effects of the business depression began to be felt early in 1921. Shippers and travelers began to regard transportation charges as unreasonably high. The quality of railroad service was not of the standard demanded. The railroads were charged with responsibility for holding back a revival of business by excessive freight rates. The public in general could not understand why the railroads had not been able to convince the Railroad Labor Board that wages in the period of post-war deflation should be reduced as they were being reduced by other employers. Nor could the general public understand why the railroads continued to plead poverty when they were enjoying rates which had been increased 25% in 1918 and about 35% in 1920.

The spokesmen for the agricultural organizations sought to blame the railroads for the sorry plight of the farmers, and the agricultural bloc in Congress attempted to cut the heart out of the Transportation Act by repealing its rate-making rule. The spokesmen for the individual states advocated an effective limitation on the right of the federal commission to regulate rates within the states. The labor leaders and their statistical experts, in an effort to discredit private management, and to influence the Labor Board in considering the pending petitions from the railroads for reductions in wages and elimination or modification of restrictive rules, made serious charges

against the honesty and efficiency of management.* Propaganda on a large scale was used to poison the minds of the employees against the companies and to promote a sentiment favorable to the Plumb Plan for the "democratization of industry." In short, public opinion, which for a time had been sympathetic toward private management, began to be critical, and in some sections actually hostile. Added to their problems of labor relations, deferred maintenance, diminished traffic and depleted income, the railroad executives had the problem of strained public relations.

Unfortunately this was not generally well handled. The Association of Railroad Executives, through its publicity department, and a few individual roads, endeavored to put the facts before the public, but the information actually reached but a small proportion of the public influenced by anti-railroad agitation. Qualitatively, the publicity of the Association could not be criticized; quantitatively it fell short, and it should have been backed up by the local officers of the individual railroads in their day-to-day contact with the public.

There were wide differences in opinion among the managements of the individual companies as to what should be done in the field of publicity. One group of executives held the view that it was their duty to do all that reasonably could be

*The Interstate Commerce Commission in its rate decision of May 16, 1922 (68 I. C. C. 676) found that railroad management as a whole was reasonably efficient.

done to meet all charges and to state the facts fully and frankly. Distasteful though it might be personally, they felt obliged on the one hand to make an earnest effort to inform that part of the public which welcomes light on both sides of a controversy, and on the other hand aggressively to expose the motives of unfair critics who made false or misleading statements.

Another group of railroad executives took the ground that no good could come from individual or large-scale efforts to meet unfair or misleading charges. They held that the function of a railroad manager was to operate the railroad efficiently so as to give good service and that his mind should not be distracted in that difficult task by irresponsible and selfish criticism, a large part of which, at least in the minds of thinking people, carried its own answer.

Between these two groups was a large number of managers who adopted a middle-of-the-road policy. While not aggressive in their defense, and while not seeking opportunities to press their views, they took favorable occasion to give publicity to the facts as they saw them and were ready to meet a challenge when directly given. Ordinarily such publicity was local in scope and was a defense of the individual road rather than of railroad management as a whole. Such was the policy of the Pennsylvania and the Illinois Central systems. Other roads adopted it on a somewhat smaller scale.

Yet, on the whole, notwithstanding the efforts of the first and the third group of individual

roads, and the large-scale publicity of the Association of Railway Executives, the defense of the railroads against the wide-spread charges of their critics was not adequately put before the public. The work was not sufficiently diffused. The belief was widely held that the railroads were operating under a guarantee from the Government which would give them 6% on their capital stock. Needless to say the railroads enjoy no *guarantee* of any kind, and the statutory rate of return aimed at (but not assured) in the Transportation Act applies to the roads in groups, not to the individual companies. Besides, the rate-making rule relates to property value and has no reference to capitalization. It is believed by many that the railroad officers, while in the service of the Government during the period of federal control, deliberately conspired to increase costs and otherwise to discredit governmental operation. The author was in a position to know the facts and can state with assurance that there was no ground for the charge so often then made and now often repeated by spokesmen for those who favor the Plumb Plan or nationalization. Too many of the public accepted as true the charge that interlocking directorates controlled the purchasing agents of the individual railroads and forced them to purchase equipment and supplies at prices higher than could have been had if such influence had not been present. Here, too, the author knows from personal knowledge that no such influence was or is exerted on the typical railroad. It is widely believed by the general

public, and particularly by railroad employees, that a gigantic conspiracy existed (and now exists) among Wall Street financiers which cripples the local managers in the conscientious administration of the properties. While it is true that maintenance programs, betterments and purchases of new equipment must be cut according to the available financial cloth, and that the financial headquarters of a substantial number of railroads are in New York City, it is not true that on the typical road the New York financiers control or interfere with local management in the conduct of operations other than in formulating a general financial policy in harmony with the earning power and credit of the individual corporation.

These misconceptions growing out of misrepresentations and half-truths disseminated by those who are honestly opposed to the corporate form of railroad control, or by those who are selfishly or professionally actuated by a desire to discredit railroad management so that Government ownership or the Plumb Plan may take the place of private management, are cited merely as illustrations of misrepresentation which the railroads should correct. The list might be indefinitely extended, but the few instances will here serve as well as many. Such charges, as well as those which truthfully reflect upon the management of the railroads generally or upon the actions of individual officers, should be completely answered by the facts. During 1921, when they had a bearing upon the insistent demands for

rate reductions, when the railroads were earning but little more than one-half of the statutory rate of return on property value, it was particularly important that the public should have been taken fully into confidence and not misled by failure to see or hear a complete and frank answer. On the part of the railroads there was a failure, generally speaking, in not keeping a finger locally upon the pulse of public opinion.

What was then needed, and what is now needed, is a decentralization of railroad publicity. There is room for centralized effort on a small scale when special opportunity offers, but the really effective results come from the local touch between the officers, agents and employees of the individual road with the local public which it serves. This is not to say that the executive officers of a railroad should undertake barnstorming expeditions, nor neglect their more important duties for speech-making. They may reserve their statements for large audiences, but each president should insist upon the painstaking carrying out of a policy of taking the public completely into confidence through local contact by subordinate officers. This assumes, of course, that the policy includes also a plan under which these subordinate officers are kept fully informed. It is a mistake to assume that it is useless to answer incorrect or misleading charges. Failure to answer may be mistaken as proof that the charges are well founded. The facts should be placed fully and frankly before the thinking and open-minded public. Fortunately, the majority of the

public is of that type. It hears much in criticism of the railroads; it hears too little of the answer.

The foregoing discussion of public relations leads naturally into a subject somewhat similar in nature—the change in attitude toward railroading as a career for ambitious men.

Two tendencies have recently been apparent in railroad organization. Here and there throughout the country we read of men, who have been prominent and successful as executives in transportation, transferring to other forms of corporate activity. The number is not large but the tendency is unmistakable. The second tendency is for college-trained men to pass by the railroad field in preparing for and finally deciding upon their life work. The railroads, therefore, are losing some of their best executive, traffic, engineering and operating experts, and they are not attracting the type of young man best fitted by general and specialized education to develop into broad-minded and resourceful officers. These tendencies, if not checked, will have a demoralizing effect upon railroad organization.

The reason for the change in attitude on the part of some of the railroad general officers, and the lack of confidence on the part of the younger generation in transportation as a field of opportunity, are easily found. The men who have grown up in the railroad business, and have attained recognition as successful managers, are chafing under the increasing restrictions upon personal initiative. There is now much smaller

play for individuality than in the period when they attained their early successes. A large part of the joy in the work has been taken out because of the steady transfer of authority from management to commissions and boards. The Interstate Commerce Commission and the State Commissions control the revenues and now have wide powers over operating methods. The Labor Board establishes the rates of pay and determines the conditions of employment.

Then there is the widespread criticism of the salaries of railroad executives. It is difficult for them to understand why the responsible head of a large public service corporation should be pilloried because he receives from $35,000 to $50,000* per year, when his personal friends who are executives of large industrial concerns, and who carry lighter loads of responsibility, are paid much more and are held in esteem because they can command such large salaries. The public appears to be quite willing that Charlie Chaplin should receive $1,000,000 per year for his contributions to the mirth of the movies, yet they find fault because the president of a railroad company, employing 100,000 men and representing an investment of hundreds of millions of dollars devoted to public service, is paid $50,000. This public criticism of salaries, coupled with the loss of opportunity for the exercise of personal initiative in management, has placed a few of the railroad executives in a receptive frame of mind

*The number of railroad presidents who receive more than $50,000 per year is exceedingly small.

when approached by industrial concerns with offers of greater salaries in a field where there is greater opportunity for the free play of managerial talent.

The factors which discourage the individualistic type of railroad manager have a bearing also upon the disinclination of ambitious young men to enter railroad service. They see greater rewards and greater certainty of advancement in other industries. Besides they know that labor union influence has erected barriers which make it difficult for them to obtain the diversity of experience which is a necessary training for managerial positions, and they resent the fact that so far as the college-trained man is concerned the railroads do not encourage the specially educated man to enter the service.

Except in a few notable instances, such as that of the Pennsylvania Railroad, the proportion of college men among railroad officials is small. The great majority are graduates of the school of practical experience. They are inclined to overestimate the value of years of training in routine and to underestimate the value of University training in which the young man, in his most impressionable years, is taught to reason and to apply principles. It must be admitted that the experience with some college graduates has been disappointing, and that a substantial proportion are so overambitious as to be impatient of routine and to chafe under slow advancement. Some of them also have an exaggerated conception of the value of their college education, and they make

slips which bring ridicule. The tendency among the typical divisional and general officers of railroads is to require the college graduate to go through exactly the same routine training as that of a grammar school boy, and to give little opportunity for the college-trained men to demonstrate the worth of his better mental training. As a result, a large part of the college-trained men who enter railroad service become discouraged, and many of them make changes which are to their personal betterment. There is an inclination among railroad officers, however, to place the blame upon the young man instead of upon the management.

This failure to recognize the need for attracting the best type of man into the service, and the lack of interest in those who spend from four to seven of their best years in college or graduate school preparation for their life work, is shown in the failure of the railroads generally to adopt the practise of many large and successful industrial corporations of having scouts to size up the graduating classes and recruit likely material. Many concerns have standing orders with the best schools for a stated number of men each year. These concerns recognize the need of attracting annually a limited number of young men of that type to work with men of the same age who have grown up in the business since their grammar school or high school days, and whose natural abilities have marked them for promotion. A judicious mixture of the two types, loosely defined as the practical and the theoretical, usually

brings excellent results, as each type is broadened by competitive contact with the other.

With the railroads, however, the companies which have adopted any settled policy in attracting promising men to their service are so few as to be noteworthy. Both in engineering and in operation, as well as in traffic, accounting, finance and law, no steps are taken, generally speaking, to compete with other lines of business for the pick of the university output. The general attitude is that the graduate must come to the railroad hat in hand; the railroads will not go to the universities. The result is that the railroad engineering courses, both civil and mechanical, in the technical schools, are appealing each year to a relatively smaller number of men, and the students who choose the general courses in transportation economics or the specialized courses in operation, traffic or accounting, take these courses and plan to enter railroading in spite of the discouragements, or because the courses will be of value to them as industrial managers, accountants, lawyers or traffic managers in their relations with the railroad companies and the governmental regulating bodies.

It may be said with truth that the wonderful development and achievements in railroad transportation in this country since 1830 until within the past few years are to be credited in greater part to men with comparatively limited education, and that among a list of 100 leading railroad executives of today not more than 10 or 20 are college graduates. The same statement will hold

true in nearly all lines of industrial and commercial activity. But times have changed. The importance and the value of a broad educational foundation, upon which to superimpose the necessary practical and intensive experience, are universally recognized, but the degree of recognition is markedly less in railroads than in other businesses.

This is partly a reflex of labor union opposition. Seniority is a cardinal principle in the labor program. Length of service rather than ability and fitness is held to be the controlling factor in promotion. It is difficult for the specially trained man to advance through the usual channels because of the restrictions of seniority and the other barriers set against selection according to merit and exceptional service.

On every railroad there are young men of exceptional ability, with and without college training, who should be promoted ahead of other men of mediocre ability. Yet because the mediocre man is older in years of service he must receive the first call. The responsible operating official is well aware that the best interests of the service demand the selection of the man with the greater ability, but the hands of the management are tied. Every attempt to discriminate on the basis of merit rather than of seniority alone is bitterly opposed by the labor organizations. The railroad official, therefore, against his better judgment, feels that he must follow the lines of least resistance. And indeed in most cases the agreements inherited from federal control, and

continued by the Railroad Labor Board, give the management no choice whatever. The result is that among the rank and file there is little incentive to excel, and the management has little opportunity for organizing promising material for managerial understudies.

If the railroads are to hold to their creditable record for efficiency up to recent years, there must be a change in the public attitude toward railroad management so that those now in executive positions, and the younger group of understudies, shall not be further discouraged and transfer to other fields. There must be a greater degree of recognition on the part of railroad officers of the necessity for competing with other lines of business in appealing to the educated young man. And there must be a modification of the seniority and other working rules which now block the recognition of special merit and fitness as the controlling element in the selection of men for positions of official responsibility. Each of these conditions is difficult to change. The ideal is practically unattainable.

It is possible, however, for the railroad managers to adopt and make effective a definite policy which would attract ambitious and educationally qualified men to railroad service. If labor union influence continues to prevent any discrimination which will make it possible for them to get their routine training in the usual way, something of the nature of a cadet system should be tried. Its merits far outweigh its defects. Candidates

should be selected both from the ranks and from college graduates, the young men already in the service to receive the first call. Such a plan would insure free competition between the college man and one who has equal natural ability developed in practical service. Cadets after selection should be held to rigorous standards and the weakest should be weeded out in the early stages. A plan such as this would encourage the ambitious in the service to excel and, because it offers something definite in the assurance of promotion when earned, it would attract a greater number of college men. The danger of class feeling, which would result if the cadets were composed entirely of college men, would be minimized.

A procedure of this sort would be actively opposed by the labor unions. They are doing all that they can to extend their jurisdiction over the foremen and other subordinate officials. The plan may be considered unworkable by many railroad officials. But there is nothing original in the idea. Something of the kind has been tried on a few roads, sometimes with success—sometimes with poor results. In the latter cases the failure was caused in the main by defects in administration. In no one case, however, has such a plan had a fair and complete trial.

In the foregoing discussion of the discouragements of the railroad executive it is not the intention to overemphasize the present restrictions upon individuality and initiative. Compared with earlier years, when railroad officers had too

much power which was often wielded with injustice to the public, to employees and to security holders, the changes are profound. The pendulum has now swung to the other extreme. Yet because the job is harder, and because it is not as easy to make a spectacular showing in results, railroad service still has attractions for those who delight in tackling the difficult task. It still has a greater fascination than most lines of industrial or com mercial work. It is a form of public service in which there is satisfaction in work well done or in difficulties surmounted. While as salaries go, the railroads do not offer as substantial inducements as industry and commerce, yet transportation work will continue to appeal to many who put the love of the job ahead of the pay envelop. Notwithstanding the clause in the Transportation Act which takes away from the individual companies one-half of the earned net income in excess of the statutory rate of return for the carriers as a whole, and notwithstanding the possibilities of further dilution of income by the absorption, under public pressure, of roads of low earning power, there still remains a reward for efficiency in management. The field for extensive achievement has been fairly well tilled, but there are still many opportunities, in the present state of the art of railroad management, for intensive railroad progress in operating economies, in traffic development, in unification of facilities, or in improving relations with labor, which offer sufficient reward in personal satisfaction and in corporate

income to justify the highest order of intelligent effort.

The Railroad Labor Board was unusually active during the first half of 1922 and handed down several important decisions which had the effect of reducing payroll expense, either in decreasing wage rates or in modifying working rules. These orders affected nearly every class of employee except the train and yard service brotherhoods.* In a general way, except for these brotherhoods, the rate reductions of 1921 and the early part of 1922 brought the wage scale to a level approximating that in effect at the end of federal control and before the Labor Board ordered its general increase of May, 1920.

While this is being written, in July, 1922, the shop crafts are on strike against the July 1, 1922, reduction in wages and modification of certain restrictive rules. The action of the men was influenced also by two additional issues. Certain railroads, in order to escape a part of the additional costs of the relatively high wage rates and burdensome rules applying to the shop crafts, made contracts with outside shops, under which a part of maintenance work on locomotives and cars was done at lower labor costs than obtained in the railroad shops. In some cases these outside repair establishments were virtually auxiliary to the railroad company, but, as they were not bound by the Labor Board rulings, they could

*See Chapter XXIII, page 263.

take advantage of the lower wage rates and more favorable working rules which applied in industries outside of railroads. A very few railroads had applied the same principle to track maintenance and freight house labor. Essentially this contract system was an evasion of the Labor Board's jurisdiction and, even though it may have been legally sound, its expediency was decidedly questionable. The Labor Board had found the practise to be objectionable and had called upon the railroads to stop it. Some of the few railroads affected complied with the order; others decided to test the issue in the courts. They held that as the Transportation Act imposed upon railroad management the obligation to operate the properties honestly, efficiently and economically, they were bound to avail themselves of opportunities such as contract work in order to keep down the cost of maintenance and operation. It is doubtful, however, whether the ultimate cost of contract work, including the additional overhead charges which resulted in certain duplications of plant and equipment, was actually lower than the cost of doing the work in the usual manner, and in any event it gave the employees the opportunity to raise the issue of bad faith and to use it as justification upon their part in refusing to abide by the rulings of the Board. There is little doubt that the railroads affected never intended that the contract system should be permanent, and that they will gladly eliminate the issue in the controversy by abrogating the contracts now that the wages of shopmen have been reduced and some

of the unreasonable rules eliminated by the Labor Board.

The second subsidiary issue in the shopmen's strike was that of failure to establish national adjustment boards. This subject has already been discussed in detail.* Inasmuch as the shop crafts had refused to be party to the creation of boards of adjustment unless they were national in scope, and the railroads had insisted upon local boards on each system, the deadlock had continued and no adjustment boards had been formed. It is probable that a compromise will be effected under which regional boards will be created.

This is the first actual strike against the acceptance of an award by the Railroad Labor Board. It is fraught with serious possibilities, both in its immediate effect upon the relations between the railroads and their employees and between both of these interests and the Labor Board. The principle of large-scale arbitration in railroad labor disputes is in danger. If the strike is successful from the viewpoint of the shopmen, it may destroy the effectiveness of the labor relations section of the Transportation Act.

The country has not yet recovered from the demoralizing influences of war. In the aftermath of the unloosening of passion in armed conflict came a distinct lowering in national respect for law and order. The tendency has been for individuals, groups and classes to become a law

*See Chapter XXII.

unto themselves. This tendency has not been peculiar to any one class, but because of the relatively large number of citizens who belong to or are affiliated indirectly with labor, it has seemed that labor emerged from the war with exaggerated class consciousness and that, in resisting the inevitable reaction of deflation, it has been unreasonable in its attitude toward the rights of others. Labor appears to have been less amenable to law and authority, even to the authority vested in its own leaders, than at any time in American history, and the whole country has been seething with a spirit akin to that which has overthrown the normal order of things in Europe. The leaders of labor are forced to be radical, else they will be thrown out and superseded by other leaders of the radical type.

Yet this state of affairs cannot continue. Gradually the national conscience will reassert itself and class consciousness will be less apparent. As conditions become normal the acute strife now existing between employer and employee will lose its bitterness. Their respective viewpoints will always be different, but much of the present distrust and antagonism will eventually yield to the spirit of fair play.

The typical railroad manager of today realizes that under the existing law, which reflects the general state of public opinion, he is a public trustee charged with responsibility for operating a public utility. His former powers of dictating practically all of the terms of employment have

been taken away from him and transferred to a governmental tribunal in which his interests are represented. Just as it has taken more than 30 years to develop the machinery of federal rate regulation, it will probably require years for the Labor Board to develop into an effective agency for the restoration and maintenance of amicable and efficient relations between railroad management and employees.

Just now, in these trying times of deflation and subnormal business, the outlook for permanent peace is not bright, but it will change as each side to the controversies becomes more willing to follow the principles of fair play. On the part of management there must be a greater and ungrudging recognition of the principle of partnership with labor, fair wages and fair working conditions. On the part of labor, in return for fair wages and fair working conditions, there must be a willingness to give a fair degree of working efficiency. The existing law provides for the judicial determination of what the worker is entitled to and what the railroads, and ultimately the general public, shall pay. The Board should be given a fair trial. Its findings should be accepted and observed in good faith by employers and employees alike. As normal conditions return there should be no reason why the decisions of the Board should not be accepted, just as the decisions of the Interstate Commerce Commission are accepted in controversies between the railroads and the shippers.

Problems of a financial nature were reserved for the concluding portion of this final chapter. As has already been stated practically all other problems are interlocked with those of finance. Essentially they are all a problem of credit. Railroad credit has been seriously impaired in the case of the stronger roads, and has practically disappeared in the case of the weak companies. The investor, once eager to put his money into railroad securities on terms which denoted confidence, has now turned to industrial and other securities. New railroad capital may be had only at interest rates which are relatively high, and refunding issues of bonds must be offered at terms which to the investor are much more favorable than those of the retired securities.

Railroad credit is a reflex of earning power. As long as earning power is uncertain, the railroads will have difficulty in securing additional capital. When earning power is assured, credit will be correspondingly improved and the needed funds may be had on reasonable terms.

It has already been pointed out that the normal program of additions and betterments, and the replacement of old equipment by units of modern design, was arrested about 1910, almost ceased in 1915, and since then has been prosecuted on a very limited scale. An enormous amount of necessary work has been deferred. The additions and improvements in facilities and equipment which normally would have been provided during the past 10 or 15 years will be imperatively necessary when the period of reconstruction has

been weathered and the country enters upon the belated upward swing in the business cycle. The additional railroad traffic which will come from greater industrial and commercial activity will bring additional revenues. These should assist in restoring credit, but that greater volume of traffic will probably exceed the economical capacity of many of the individual systems which have fallen behind in their normal rate of improvements. Many railroads are in the embarrassing position that their financial salvation depends upon a greater volume of business, yet a traffic load which would restore their earning power sufficiently to revive their credit cannot be handled satisfactorily until their traffic capacity has been increased. And their capacity cannot be increased until their earning power makes possible the raising of new capital.

Before the period of the war the normal growth in ton-miles for the country as a whole by decades was at the rate of about 8⅓% per year. In other words, the volume of tonnage doubled in every 12 years. The development in tonnage has been thrown out of gear by the depression of 1921, but the present signs are that there will be a substantial business revival in the near future. Railroad carrying capacity was severely taxed by the record movement of the fall of 1920. Since then there have been relatively few extensions or enlargements of facilities, and the replacements of old equipment have not been sufficient to keep up normal standards or capacity.

Various estimates have been made as to what the railroads will be required to spend in additional facilities and equipment in the immediate future to put the transportation systems in shape to take care of the expected heavier traffic load. A conservative estimate is $1,000,000,000 per year for several years. The late James J. Hill used that figure more than 10 years ago. It can hardly be less now, with higher construction costs and greater arrearages in the normal rate of expenditure.

It is doubtful if the Interstate Commerce Commission gave full consideration to these needs when it decided, on May 16, 1922, that the statutory rate of return should be reduced from 6% to 5¾%. While the traffic volume of the first half of 1922 exceeded that of the same period in 1921, and while net railway operating income was greater, the railroads as a whole were still some distance away from the "fair return" contemplated by the Transportation Act, even under the new definition of the Commission, effective March 1, 1922.*

The original definition of a fair rate of return (5½% on property value, plus a discretionary ½ of 1% for improvements, betterments or equipment chargeable to capital account) was to remain in effect during the first two years from March 1, 1920. From March 1, 1922, the Commission was required to "determine and make public what percentage of such aggregate value constitutes a fair

*The return on property value during the first 6 months of 1922 was about 4.4%.

rate of return thereon, and such percentage shall be uniform for all rate groups or territories which may be designated by the Commission."

The Commission's decision was a disappointment to the railroad executives and to others who believed that the 6% standard should be continued. That rate is meagre enough as a return on invested capital, and it allows little for the creation of a surplus so vital to sound credit. The Government itself, in its relations with the railroads, exacts an interest rate of 6% on loans from its revolving fund.

The reduction of the statutory rate to 5¾% has increased the difficulty of maintaining credit sufficient to permit the securing of new capital for needed extensions, enlargements and betterments. It is doubtful if the Commissioners who signed the majority decision gave sufficient consideration to the "necessity . . . of enlarging such facilities in order to provide the people of the United States with adequate transportation."* It is not improbable that the same shippers who complained about high rates, and who objected to a statutory rate of return of any kind, may, when prosperity returns, have greater reason to complain about inadequate service or failure to obtain cars. It is not easy to convince the average shipper that service is as important, if not more important, than rates, and that the railroads cannot furnish satisfactory service unless the shippers are willing to pay rates which will enable

*Section 15a, Interstate Commerce Act as amended in 1922.

the railroads to keep their facilities and equipment in step with the constant growth in traffic demand.

However, as the matter stood during the first half of 1922, it made little difference to the typical road whether the statutory rate was 6% or 5¾%. The railroads as a whole, and the great majority of them individually, were not earning 5¾%, and had not earned that much in 1920 or 1921. For the entire year 1920 the return was 0.3%; in 1921 it was 3.3%; and during the first six months of 1922, it was 4.4%. The figures for the first 6 months, however, do not furnish a fair indication of the probable results of the entire year, since they include the lean months of January and February and do not include the best months of the fall. The net operating income of the second half is usually much better than the first half of any year.

Reference was made in Chapter XXI to the section of the Transportation Act which contemplates the ultimate voluntary consolidation of the railroads of the United States into a limited number of large systems of fairly equal financial strength, so that uniform rates applying to all of such systems in a territorial group may yield substantially the same rate of return upon property value. The Commission was directed to prepare and adopt a plan under which such consolidations would become effective.

In such action as the Commission had taken in this matter up to July, 1922, it has moved with de-

liberation. Sometime in 1920 it began to consider the general subject and invited Professor William Z. Ripley, of Harvard University, to make an independent study and to recommend a comprehensive plan for the Commission's consideration. His report was made to the Commission during the summer of 1921, and the Commission published it as an appendix to its tentative plan, under date of August 3, 1921.* In the main, the tentative plan, which was "put forward in order to elicit a full record upon which the plan to be ultimately adopted can rest," was based upon Professor Ripley's recommendations, although it differed therefrom in a few important particulars.

In announcing the tentative plan to the carriers, the state commissions and the public, the Commission gave notice of hearings, the dates to be announced later. The hearings did not actually begin until early in 1922, when in the Southern carriers, the state commissioners and others interested, were asked to express their views on what had been proposed. The point was emphasized that the tentative plan had been put forward merely as a starting point for discussion, and the Commission urged the railroad representatives, who offered many objections to that plan, to submit constructive ideas of their own as to what the Commission should do in meeting the spirit of the Act. Up to July, 1922, nothing definite had been accomplished. The few hearings on the

*63 I. C. C. 455.

subject were confined to Southern territory. It was apparent that the Commission was feeling its way.

The Commission's tentative plan contemplates the creation of 19 large systems which will embrace practically all of the Class 1 railroads. Alternative plans are suggested for New England. The brief titles give a general indication of the proposal:

1. New York Central
2. Pennsylvania
3. Baltimore & Ohio-Reading
4. Erie
5. Nickel Plate-Lehigh Valley
6. Pere Marquette
7. New England
8. Chesapeake & Ohio
9. Norfolk & Western
10. Southern
11. Atlantic Coast Line-Louisville & Nashville
12. Illinois Central
13. Union Pacific-Northwestern
14. Burlington-Northern Pacific
15. Milwaukee-Great Northern
16. Santa Fe
17. Southern Pacific-Rock Island
18. Frisco-Katy-Cotton Belt
19. Chicago-Missouri Pacific

In each case the roads named in the title are to form the main parts of the new systems which will also take in certain smaller connecting lines.

It has already been pointed out that the principal purpose of comprehensive consolidation of

railroads is to eliminate the greatest obstacle in the path of effective regulation of competitive rates—the weak road. Between competitive points via competing roads, rates are necessarily the same. A rate scale fixed to give only a reasonable return to the strong will not permit the weak to live. Rates made high enough to insure adequate earning power to the weak will yield unreasonably high returns to the strong. Both the weak and the strong are necessary to the communities which they serve locally. In practise the Commission has been obliged to compromise by establishing rate scales which would not be too meagre to the weak nor too generous to the strong, but the tendency has been to pay more attention to curbing the prosperous roads than nourishing those which are financially weak. The record of the past 30 years or more reveals a steady process of consolidation in which the weaker roads have, willingly or unwillingly, been absorbed by the larger systems.

The plan of comprehensive consolidation tentatively put forth by the Commission and, in fact, any plan which may be proposed, cannot satisfy all of the parties affected. Conflict of corporate and personal interests, jealousies, or personal ambitions of individuals, will probably delay the early adoption of any large-scale plan for voluntary consolidation.

The natural desire of the officers and directors of an individual railroad company is to maintain independence. They are not adverse to enlarging their properties if they can do so on favorable

terms, but they cannot be expected to regard with complacency the loss of identity and the limiting of their sphere of influence when their road is absorbed by a larger system. Communities, too, have prejudices against "absentee landlordism." Local pride and traditions demand that executive control shall not be allowed to go outside the state or section. Again, while the weak road may be very glad to end its worries by becoming a part of a stronger connection, and the larger company may not be unwilling to absorb the smaller, the views of the latter as to its value and as to the terms of consolidation may be widely at variance with those of the absorbing road. The indigent companies see promise of better terms under a comprehensive plan of consolidation, backed by the Interstate Commerce Commission, than in the former evolutionary process when the buyer could choose his time and frequently could dictate his terms.

These and other difficulties will probably retard the process of voluntary consolidation. The Commission has no power to enforce its recommendations. The bill as it passed the Senate called for compulsory consolidation, but in deference to the views of the House, the compulsory feature was eliminated in joint conference. Unless public opinion, awakened by the realization of the benefits to be derived from intelligent consolidation on a well-planned large scale, asserts itself and demands that the law be amended so that, with proper safeguards for property rights of both the strong and the weak companies, con-

solidation shall be compulsory, little toward the desired end will be accomplished under the 1920 Act.

This is unfortunate, because the new rule of rate-making cannot operate successfully for the railroads as a whole unless the problem of the weak road is solved in some such manner by merging the weak with the strong.

APPENDIX

THE PRESIDENT'S PROCLAMATION AND STATEMENT TO CONGRESS DECEMBER 26, 1917

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

A PROCLAMATION

WHEREAS the Congress of the United States, in the exercise of the constitutional authority vested in them, by joint resolution of the Senate and House of Representatives bearing date April 6, 1917, resolved:

That the state of war between the United States and the Imperial German Government which has thus been thrust upon the United States is hereby formally declared; and that the President be, and he is hereby authorized and directed to employ the entire naval and military forces of the United States and the resources of the Government to carry on war against the Imperial German Government; and to bring the conflict to a successful termination all of the resources of the country are hereby pledged by the Congress of the United States.

And by joint resolution bearing date of December 7, 1917, resolved:

That a state of war is hereby declared to exist between the United States of America and the Imperial and Royal Austro-Hungarian Government; and that the President be, and he is hereby authorized and directed to employ the entire naval and military forces of the United States and the resources of the Government to

carry on war against the Imperial and Royal Austro-Hungarian Government; and to bring the conflict to a successful termination all the resources of the country are hereby pledged by the Congress of the United States.

And whereas it is provided by section 1 of the act approved August 29, 1916, entitled "An act making appropriations for the support of the Army for the fiscal year ending June 30, 1917, and for other purposes," as follows:

The President in time of war is empowered, through the Secretary of War, to take possession and assume control of any system or systems of transportation, or any part thereof, and to utilize the same, to the exclusion, as far as may be necessary, of all other traffic thereon, for the transfer or transportation of troops, war material, and equipment, or for such other purposes connected with the emergency as may be needful or desirable.

And whereas it has now become necessary in the national defense to take possession and assume control of certain systems of transportation and to utilize the same, to the exclusion, as far as may be necessary, of other than war traffic thereon, for the transportation of troops, war material, and equipment therefor, and for other needful and desirable purposes connected with the prosecution of the war;

Now, therefore, I, Woodrow Wilson, President of the United States, under and by virtue of the powers vested in me by the foregoing resolutions and statute, and by virtue of all other

powers thereto me enabling, do hereby, through Newton D. Baker, Secretary of War, take possession and assume control at 12 o'clock noon on the 28th day of December, 1917, of each and every system of transportation and the appurtenances thereof located wholly or in part within the boundaries of the continental United States and consisting of railroads and owned or controlled systems of coastwise and inland transportation engaged in general transportation, whether operated by steam or by electric power, including also terminals, terminal companies, and terminal associations, sleeping and parlor cars, private cars and private car lines, elevators, warehouses, telegraph and telephone lines, and all other equipment and appurtenances commonly used upon or operated as a part of such rail or combined rail-and-water systems of transportation; to the end that such systems of transportation be utilized for the transfer and transportation of troops, war material, and equipment, to the exclusion so far as may be necessary of all other traffic thereon; and that so far as such exclusive use be not necessary or desirable such systems of transportation be operated and utilized in the performance of such other services as the national interest may require and of the usual and ordinary business and duties of common carriers.

It is hereby directed that the possession, control, operation, and utilization of such transportation systems, hereby by me undertaken, shall be exercised by and through William G. McAdoo, who is hereby appointed and designated Director

General of Railroads. Said director may perform the duties imposed upon him, so long and to such extent as he shall determine, through the boards of directors, receivers, officers, and employees of said systems of transportation. Until and except so far as said director shall from time to time by general or special orders otherwise provide, the boards of directors, receivers, officers, and employees of the various transportation systems shall continue the operation thereof in the usual and ordinary course of the business of common carriers, in the names of their respective companies.

Until and except so far as said director shall from time to time otherwise by general or special orders determine, such systems of transportation shall remain subject to all existing statutes and orders of the Interstate Commerce Commission and to all statutes and orders of regulating commissions of the various States in which said systems or any part thereof may be situated. But any orders, general or special, hereafter made by said director shall have paramount authority and be obeyed as such.

Nothing herein shall be construed as now affecting the possession, operation, and control of street electric passenger railways, including railways commonly called interurbans, whether such railways be or be not owned or controlled by such railroad companies or systems. By subsequent order and proclamation, if and when it shall be found necessary or desirable, possession, control, or operation may be taken of all or any part of such street railway systems, including subways

and tunnels; and by subsequent order and proclamation possession, control, and operation in whole or in part may also be relinquished to the owners thereof of any part of the railroad systems or rail and water systems, possession and control of which are hereby assumed.

The director shall, as soon as may be after having assumed such possession and control, enter upon negotiations with the several companies looking to agreements for just and reasonable compensation for the possession, use, and control of their respective properties on the basis of an annual guaranteed compensation above accruing depreciation and the maintenance of their properties equivalent, as nearly as may be, to the average of the net operating income thereof for the three-year period ending June 30, 1917, the results of such negotiations to be reported to me for such action as may be appropriate and lawful.

But nothing herein contained, expressed or implied, or hereafter done or suffered hereunder, shall be deemed in any way to impair the rights of the stockholders, bondholders, creditors, and other persons having interests in said systems of transportation or in the profits thereof to receive just and adequate compensation for the use and control and operation of their property hereby assumed.

Regular dividends hitherto declared and maturing interest upon bonds, debentures, and other obligations may be paid in due course; and such regular dividends and interest may continue to be paid until and unless the said director shall

from time to time otherwise by general or special orders determine; and, subject to the approval of the director, the various carriers may agree upon and arrange for the renewal and extension of maturing obligations.

Except with the prior written assent of said director, no attachment by mesne process or on execution shall be levied on or against any of the property used by any of said transportation systems in the conduct of their business as common carriers; but suits may be brought by and against said carriers and judgments rendered as hitherto until and except so far as said director may, by general or special orders, otherwise determine.

From and after 12 o'clock noon on said 28th day of December, 1917, all transportation systems included in this order and proclamation shall conclusively be deemed within the possession and control of said director without further act or notice. But for the purpose of accounting said possession and control shall date from 12 o'clock midnight on December 31, 1917.

In witness whereof I have hereunto set my hand and caused the seal of the United States to be affixed.

Done by the President, through Newton D. Baker, Secretary of War, in the District of Columbia, this 26th day of December, in the year of our Lord one thousand nine hundred and seventeen, and of the independence of the United States the one hundred and forty-second.

WOODROW WILSON.

By the President:

ROBERT LANSING,
Secretary of State.

NEWTON D. BAKER,
Secretary of War.

Statement of the President

I have exercised the powers over the transportation systems of the country which were granted me by the act of Congress of last August because it has become imperatively necessary for me to do so. This is a war of resources no less than of men, perhaps even more than of men, and it is necessary for the complete mobilization of our resources that the transportation systems of the country should be organized and employed under a single authority and a simplified method of coordination which have not proved possible under private management and control. The committee of railway executives who have been cooperating with the Government in this all-important matter have done the utmost that it was possible for them to do; have done it with patriotic zeal and with great ability; but there were difficulties that they could neither escape nor neutralize. Complete unity of administration in the present circumstances involves upon occasion and at many points a serious dislocation of earnings, and the committee was, of course, without power or authority to rearrange charges or effect proper compensations and adjustments of earnings. Several roads which were willingly and with admirable public spirit accepting the orders of the committee have already suffered from these circumstances and should not be required to suffer further. In mere fairness to them the full authority of the Government must be substituted. The Government itself will thereby gain an immense increase of efficiency in the conduct of the

war and of the innumerable activities upon which its successful conduct depends.

The public interest must be first served and, in addition, the financial interests of the Government and the financial interests of the railways must be brought under a common direction. The financial operations of the railways need not then interfere with the borrowings of the Government, and they themselves can be conducted at a greater advantage. Investors in railway securities may rest assured that their rights and interests will be as scrupulously looked after by the Government as they could be by the directors of the several railway systems. Immediately upon the reassembling of Congress I shall recommend that these definite guarantees be given: First, of course, that the railway properties will be maintained during the period of federal control in as good repair and as complete equipment as when taken over by the Government; and, second, that the roads shall receive a net operating income equal in each case to the average net income of the three years preceding June 30, 1917; and I am entirely confident that the Congress will be disposed in this case, as in others, to see that justice is done and full security assured to the owners and creditors of the great systems which the Government must now use under its own direction or else suffer serious embarrassment.

The Secretary of War and I are agreed that, all the circumstances being taken into consideration, the best results can be obtained under the immediate executive direction of the Hon. William G. McAdoo, whose practical experience peculiarly

fits him for the service and whose authority as Secretary of the Treasury will enable him to coordinate as no other man could the many financial interests which will be involved and which might, unless systematically directed, suffer very embarrassing entanglements.

The Government of the United States is the only great Government now engaged in the war which has not already assumed control of this sort. It was thought to be in the spirit of American institutions to attempt to do everything that was necessary through private management, and if zeal and ability and patriotic motive could have accomplished the necessary unification of administration it would certainly have been accomplished; but no zeal or ability could overcome insuperable obstacles, and I have deemed it my duty to recognize that fact in all candor, now that it is demonstrated, and to use without reserve the great authority reposed in me. A great national necessity dictated the action, and I was therefore not at liberty to abstain from it.

Woodrow Wilson.

FEDERAL CONTROL ACT

[Public—No. 107—65th Congress.]
[S. 3752.]

An Act to provide for the operation of transportation systems while under federal control, for the just compensation of their owners, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President, having in time of war taken over the possession, use, control, and operation (called herein federal control) of certain railroads and systems of transportation (called herein carriers), is hereby authorized to agree with and to guarantee to any such carrier making operating returns to the Interstate Commerce Commission, that during the period of such federal control it shall receive as just compensation an annual sum, payable from time to time in reasonable installments, for each year and pro rata for any fractional year of such federal control, not exceeding a sum equivalent as nearly as may be to its average annual railway operating income for the three years ended June thirtieth, nineteen hundred and seventeen.

That any railway operating income accruing during the period of federal control in excess of such just compensation shall remain the property of the United States. In the computation of such

income, debits and credits arising from the accounts called in the monthly reports to the Interstate Commerce Commission equipment rents and joint facility rents shall be included, but debits and credits arising from the operation of such street electric passenger railways, including railways commonly called interurbans, as are at the time of the agreement not under federal control, shall be excluded. If any lines were acquired by, leased to, or consolidated with such railroad or system between July first, nineteen hundred and fourteen, and December thirty-first, nineteen hundred and seventeen, both inclusive, and separate operating returns to the Interstate Commerce Commission were not made for such lines after such acquisition, lease, or consolidation, there shall (before the average is computed) be added to the total railway operating income of such railroad or system for the three years ended June thirtieth, nineteen hundred and seventeen, the total railway operating income of the lines so acquired, leased, or consolidated, for the period beginning July first, nineteen hundred and fourteen, and ending on the date of such acquisition, lease, or consolidation, or on December thirty-first, nineteen hundred and seventeen, whichever is the earlier. The average annual railway operating income shall be ascertained by the Interstate Commerce Commission and certified by it to the President. Its certificate shall, for the purpose of such agreement, be taken as conclusive of the amount of such average annual railway operating income.

Every such agreement shall provide that any federal taxes under the Act of October third,

nineteen hundred and seventeen, or Acts in addition thereto or in amendment thereof, commonly called war taxes, assessed for the period of federal control beginning January first, nineteen hundred and eighteen, or any part of such period, shall be paid by the carrier out of its own funds, or shall be charged against or deducted from the just compensation; that other taxes assessed under federal or any other governmental authority for the period of federal control or any part thereof, either on the property used under such federal control or on the right to operate as a carrier, or on the revenues or any part thereof derived from operation (not including, however, assessments for public improvements or taxes assessed on property under construction, and chargeable under the classification of the Interstate Commerce Commission to investment in road and equipment), shall be paid out of revenues derived from railway operations while under federal control; that all taxes assessed under federal or any other governmental authority for the period prior to January first, nineteen hundred and eighteen, whenever levied or payable, shall be paid by the carrier out of its own funds, or shall be charged against or deducted from the just compensation.

Every such agreement shall also contain adequate and appropriate provisions for the maintenance, repair, renewals, and depreciation of the property, for the creation of any reserves or reserve funds found necessary in connection therewith, and for such accounting and adjust-

ments of charges and payments, both during and at the end of federal control as may be requisite in order that the property of each carrier may be returned to it in substantially as good repair and in substantially as complete equipment as it was in at the beginning of federal control, and also that the United States may, by deductions from the just compensations or by other proper means and charges be reimbursed for the cost of any additions, repairs, renewals, and betterments to such property not justly chargeable to the United States; in making such accounting and adjustments, due consideration shall be given to the amounts expended or reserved by each carrier for maintenance, repairs, renewals, and depreciation during the three years ended June thirtieth, nineteen hundred and seventeen, to the condition of the property at the beginning and at the end of federal control and to any other pertinent facts and circumstances.

The President is further authorized in such agreement to make all other reasonable provisions, not inconsistent with the provisions of this Act or of the Act entitled "An Act making appropriations for the support of the Army for the fiscal year ending June thirtieth, nineteen hundred and seventeen, and for other purposes," approved August twenty-ninth, nineteen hundred and sixteen, that he may deem necessary or proper for such federal control or for the determination of the mutual rights and obligations of

the parties to the agreement arising from or out of such federal control.

If the President shall find that the condition of any carrier was during all or a substantial portion of the period of three years ended June thirtieth, nineteen hundred and seventeen, because of non-operation, receivership, or where recent expenditures for additions or improvements or equipment were not fully reflected in the operating railway income of said three years or a substantial portion thereof, or because of any undeveloped or abnormal conditions, so exceptional as to make the basis of earnings hereinabove provided for plainly inequitable as a fair measure of just compensation, then the President may make with the carrier such agreement for such amount as just compensation as under the circumstances of the particular case he shall find just.

That every railroad not owned, controlled, or operated by another carrier company, and which has heretofore competed for traffic with a railroad or railroads of which the President has taken the possession, use, and control, or which connects with such railroads and is engaged as a common carrier in general transportation, shall be held and considered as within "federal control," as herein defined, and necessary for the prosecution of the war, and shall be entitled to the benefit of all the provisions of this Act: *Provided, however,* That nothing in this paragraph shall be construed as including any street or interurban electric railway which has as its principal source of operating

revenue urban, suburban, or interurban passenger traffic, or sale of power, heat and light, or both.

The agreement shall also provide that the carrier shall accept all the terms and conditions of this act and any regulation or order made by or through the President under authority of this act or of that portion of the act entitled "An act making appropriations for the support of the Army for the fiscal year ending June thirtieth, nineteen hundred and seventeen, and for other purposes," approved August twenty-ninth, nineteen hundred and sixteen, which authorizes the President in time of war to take possession, assume control, and utilize systems of transportation.

Sec. 2. That if no such agreement is made, or pending the execution of an agreement, the President may nevertheless pay to any carrier while under federal control an annual amount, payable in reasonable installments, not exceeding ninety per centum of the estimated annual amount of just compensation, remitting such carrier, in case where no agreement is made, to its legal rights for any balance claimed to the remedies provided in section three hereof. Any amount thereafter found due such carrier above the amount paid shall bear interest at the rate of six per centum per annum. The acceptance of any benefits under this section shall constitute an acceptance by the carrier of all the provisions of this Act and shall obligate the carrier to pay to the United States, with interest at the rate of six per centum per annum from a date or dates fixed in

proceedings under section three, the amount by which the sums received under this section exceed the sum found due in such proceedings.

Sec. 3. That all claims for just compensation not adjusted (as provided in section one) shall, on the application of the President or of any carrier, be submitted to boards, each consisting of three referees to be appointed by the Interstate Commerce Commission, members of which and the official force thereof being eligible for service on such boards without additional compensation. Such boards of referees are hereby authorized to summon witnesses, require the production of records, books, correspondence, documents, memoranda, and other papers, view properties, administer oaths, and may hold hearings in Washington and elsewhere, as their duties and the convenience of the parties may require. In case of disobedience to a subpœna the board may invoke the aid of any district court of the United States in requiring the attendance and testimony of witnesses and the production of documentary evidence, and such court within the jurisdiction of which such inquiry is carried on may, in case of contumacy or refusal to obey a subpœna issued to any person, corporation, partnership, or association, issue an order requiring appearance before the board, or the production of documentary evidence if so ordered, or the giving of evidence touching the matter in question; and any failure to obey such order of the court may be punished by such court as a contempt thereof. Such cases may be heard separately or together or by classes, by such boards as the Interstate Com-

merce Commission in the first instance, or any board of referees to which any such cases shall be referred may determine. Said boards shall give full hearings to such carriers and to the United States; shall consider all the facts and circumstances, and shall report as soon as practicable in each case to the President the just compensation, calculated on an annual basis and otherwise in such form as to be convenient and available for the making of such agreement as is authorized in section one. The President is authorized to enter into an agreement with such carrier for just compensation upon a basis not in excess of that reported by such board, and may include therein provisions similar to those authorized under section one. Failing such agreement, either the United States or such carrier may file a petition in the Court of Claims for the purpose of determining the amount of such just compensation, and in the proceedings in said court the report of said referees shall be prima facie evidence of the amount of just compensation and of the facts therein stated. Proceedings in the Court of Claims under this section shall be given precedence and expedited in every practical way.

Sec. 4. That the just compensation that may be determined as hereinbefore provided by agreement or that may be adjudicated by the Court of Claims, shall be increased by an amount reckoned at a reasonable rate per centum to be fixed by the President upon the cost of any additions and betterments, less retirements, and upon the cost of road extensions to the property of such carrier made by such carrier with the approval of or by

order of the President while such property is under federal control.

Sec. 5. That no carrier while under federal control shall, without the prior approval of the President, declare or pay any dividend in excess of its regular rate of dividends during the three years ended June thirtieth, nineteen hundred and seventeen: *Provided, however,* That such carriers as have paid no regular dividends or no dividends during said period may, with the prior approval of the President, pay dividends at such rate as the President may determine.

Sec. 6. That the sum of $500,000,000 is hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, which, together with any funds available from any operating income of said carriers, may be used by the President as a revolving fund for the purpose of paying the expenses of the federal control, and so far as necessary the amount of just compensation, and to provide terminals, motive power, cars, and other necessary equipment, such terminals, motive power, cars, and equipment to be used and accounted for as the President may direct and to be disposed of as Congress may hereafter by law provide.

The President may also make or order any carrier to make any additions, betterments, or road extensions, and to provide terminals, motive power, cars, and other equipment necessary or desirable for war purposes or in the public interest on or in connection with the property of

any carrier. He may from said revolving fund advance to such carrier all or any part of the expense of such additions, betterments, or road extensions, and to provide terminals, motive power, cars, and other necessary equipment so ordered and constructed by such carrier or by the President, such advances to be charged against such carrier and to bear interest at such rate and be payable on such terms as may be determined by the President, to the end that the United States may be fully reimbursed for any sums so advanced.

Any loss claimed by any carrier by reason of any such additions, betterments, or road extensions so ordered and constructed may be determined by agreement between the President and such carrier; failing such agreement the amount of such loss shall be ascertained as provided in section three hereof.

From said revolving fund the President may expend such an amount as he may deem necessary or desirable for the utilization and operation of canals, or for the purchase, construction, or utilization and operation of boats, barges, tugs, and other transportation facilities on the inland, canal, and coastwise waterways, and may in the operation and use of such facilities create or employ such agencies and enter into such contracts and agreements as he shall deem in the public interest.

No provision of this Act shall be construed to prevent the routing of freight by a shipper or consignee over any inland canal or coastwise waterway, or a part way over such waterway and

a part way by rail. In case the shipper or consignee shall so route the freight, no provision of this Act shall be construed as giving power to change the routing.

SEC. 7. That for the purpose of providing funds requisite for maturing obligations or for other legal and proper expenditures, or for reorganizing railroads in receivership, carriers may, during the period of federal control, issue such bonds, notes, equipment trust certificates, stock, and other forms of securities, secured or unsecured by mortgage, as the President may first approve as consistent with the public interest. The President may, out of the revolving fund created by this Act, purchase for the United States all or any part of such securities at prices not exceeding par, and may sell such securities whenever in his judgment it is desirable at prices not less than the cost thereof. Any securities so purchased shall be held by the Secretary of the Treasury, who shall, under the direction of the President, represent the United States in all matters in connection therewith in the same manner as a private holder thereof. The President shall each year as soon as practicable after January first, cause a detailed report to be submitted to the Congress of all receipts and expenditures made under this section and section six during the preceding calendar year.

SEC. 8. That the President may execute any of the powers herein and heretofore granted him with relation to federal control through such

agencies as he may determine, and may fix the reasonable compensation for the performance of services in connection therewith, and may avail himself of the advice, assistance, and cooperation of the Interstate Commerce Commission and of the members and employees thereof, and may also call upon any department, commission, or board of the Government for such services as he may deem expedient. But no such official or employee of the United States shall receive any additional compensation for such services except as now permitted by law.

SEC. 9. That the provisions of the Act entitled "An Act making appropriations for the support of the Army for the fiscal year ending June thirtieth, nineteen hundred and seventeen, and for other purposes," approved August twenty-ninth, nineteen hundred and sixteen, shall remain in force and effect except as expressly modified and restricted by this Act; and the President, in addition to the powers conferred by this Act, shall have and is hereby given such other and further powers necessary or appropriate to give effect to the powers herein and heretofore conferred. The provisions of this act shall also apply to any carriers to which federal control may be hereafter extended.

SEC. 10. That carriers while under federal control shall be subject to all laws and liabilities as common carriers, whether arising under state or federal laws or at common law, except in so far as may be inconsistent with the provisions of this act or any other act applicable to such federal

control or with any order of the President. Actions at law or suits in equity may be brought by and against such carriers and judgments rendered as now provided by law; and in any action at law or suit in equity against the carrier, no defense shall be made thereto upon the ground that the carrier is an instrumentality or agency of the Federal Government. Nor shall any such carrier be entitled to have transferred to a federal court any action heretofore or hereafter instituted by or against it, which action was not so transferable prior to the federal control of such carrier; and any action which has heretofore been so transferred because of such federal control or of any act of Congress or official order or proclamation relating thereto shall upon motion of either party be transferred to the court in which it was originally instituted. But no process, mesne or final, shall be levied against any property under such federal control.

That during the period of federal control, whenever in his opinion the public interest requires, the President may initiate rates, fares, charges, classifications, regulations, and practises by filing the same with the Interstate Commerce Commission, which said rates, fares, charges, classifications, regulations, and practises shall not be suspended by the commission pending final determination.

Said rates, fares, charges, classifications, regulations, and practises shall be reasonable and just and shall take effect at such time and upon such notice as he may direct, but the Interstate Commerce Commission, shall, upon complaint,

enter upon a hearing concerning the justness and reasonableness of so much of any order of the President as establishes or changes any rate, fare, charge, classification, regulation, or practise of any carrier under federal control, and may consider all the facts and circumstances existing at the time of the making of the same. In determining any question concerning any such rates, fares, charges, classifications, regulations, or practises or changes therein, the Interstate Commerce Commission shall give due consideration to the fact that the transportation systems are being operated under a unified and coordinated national control and not in competition.

After full hearing the commission may make such findings and orders as are authorized by the act to regulate commerce as amended, and said findings and orders shall be enforced as provided in said Act: *Provided, however,* That when the President shall find and certify to the Interstate Commerce Commission that in order to defray the expenses of federal control and operation fairly chargeable to railway operating expenses, and also to pay railway tax accruals other than war taxes, net rents for joint facilities and equipment, and compensation to the carriers, operating as a unit, it is necessary to increase the railway operating revenues, the Interstate Commerce Commission in determining the justness and reasonableness of any rate, fare, charge, classification, regulation, or practise shall take into consideration said finding and certificate by the President, together with such recommendations as he may make.

SEC. 11. That every person or corporation, whether carrier or shipper, or any receiver, trustee, lessee, agent, or person acting for or employed by a carrier or shipper, or other person, who shall knowingly violate or fail to observe any of the provisions of this Act, or shall knowingly interfere with or impede the possession, use, operation, or control of any railroad property, railroad, or transportation system hitherto or hereafter taken over by the President, or shall knowingly violate any of the provisions of any order or regulation made in pursuance of this Act, shall be guilty of a misdemeanor, and shall, upon conviction, be punished by a fine of not more than $5,000, or, if a person, by imprisonment for not more than two years, or both. Each independent transaction constituting a violation of, or failure to observe, any of the provisions of this Act, or any order entered in pursuance hereof, shall constitute a separate offense. For the taking or conversion to his own use of the embezzlement of money or property derived from or used in connection with the possession, use, or operation of said railroads or transportation systems, the criminal statutes of the United States, as well as the criminal statutes of the various States where applicable, shall apply to all officers, agents, and employees engaged in said railroad and transportation service, while the same is under federal control, to the same extent as to persons employed in the regular service of the United States. Prosecutions for violations of this Act or of any order entered hereunder shall be in the district courts of the United States, under the

direction of the Attorney General, in accordance with the procedure for the collection and imposing of fines and penalties now existing in said courts.

SEC. 12. That moneys and other properties derived from the operation of the carriers during federal control are hereby declared to be the property of the United States. Unless otherwise directed by the President, such moneys shall not be covered into the Treasury, but such moneys and property shall remain in the custody of the same officers, and the accounting thereof shall be in the same manner and form as before federal control. Disbursements therefrom shall, without further appropriation, be made in the same manner as before federal control and for such purposes as under the Interstate Commerce Commission classification of accounts in force on December twenty-seventh, nineteen hundred and seventeen, are chargeable to operating expenses or to railway tax accruals and for such other purposes in connection with federal control as the President may direct, except that taxes under Titles One and Two of the act entitled "An act to provide revenue to defray war expenses, and for other purposes," approved October third, nineteen hundred and seventeen, or any act in addition thereto or in amendment thereof, shall be paid by the carrier out of its own funds. If federal control begins or ends during the tax year for which any taxes so chargeable to railway tax accruals are assessed, the taxes for such year shall be apportioned to the date of the beginning

or ending of such federal control, and disbursements shall be made only for that portion of such taxes as is due for the part of such tax year which falls within the period of federal control.

At such periods as the President may direct, the books shall be closed and the balance of revenues over disbursements shall be covered into the Treasury of the United States to the credit of the revolving fund created by this act. If such revenues are insufficient to meet such disbursements, the deficit shall be paid out of such revolving fund in such manner as the President may direct.

Sec. 13. That all pending cases in the courts of the United States affecting railroads or other transportation systems brought under the act to regulate commerce, approved February fourth, eighteen hundred and eighty-seven, as amended and supplemented, including the commodities clause, so called, or under the act to protect trade and commerce against unlawful restraints and monopolies, approved July second, eighteen hundred and ninety, and amendments thereto, shall proceed to final determination as soon as may be, as if the United States had not assumed control of transportation systems; but in any such case the court having jurisdiction may, upon the application of the United States, stay execution of final judgment or decree until such time as it shall deem proper.

Sec. 14. That the federal control of railroads and transportation systems herein and heretofore

provided for shall continue for and during the period of the war and for a reasonable time thereafter, which shall not exceed one year and nine months next following the date of the proclamation by the President of the exchange of ratifications of the treaty of peace: *Provided, however,* That the President may, prior to July first, nineteen hundred and eighteen, relinquish control of all or any part of any railroad or system of transportation, further federal control of which the President shall deem not needful or desirable; and the President may at any time during the period of federal control agree with the owners thereof to relinquish all or any part of any railroad or system of transportation. The President may relinquish all railroads and systems of transportation under federal control at any time he shall deem such action needful or desirable. No right to compensation shall accrue to such owners from and after the date of relinquishment for the property so relinquished.

Sec. 15. That nothing in this act shall be construed to amend, repeal, impair, or affect the existing laws or powers of the States in relation to taxation or the lawful police regulations of the several States, except wherein such laws, powers, or regulations may affect the transportation of troops, war materials, Government supplies, or the issue of stocks and bonds.

Sec. 16. That this act is expressly declared to be emergency legislation enacted to meet conditions growing out of war; and nothing herein is

to be construed as expressing or prejudicing the future policy of the Federal Government concerning the ownership, control, or regulation of carriers or the method or basis of the capitalization thereof.

Approved, March 21, 1918.

STANDARD CONTRACT

[Form A, October 22, 1918.—For companies without subsidiaries.]

Agreement Between the Director General of Railroads and the .... Company

Preamble and Recitals

This Agreement, made this................day of......................, 1918, between *William G. McAdoo,* Director General of Railroads, hereinafter called the Director General, acting on behalf of the United States and the President, under the powers conferred by the proclamations of the President hereinafter referred to, and the .... Company, a corporation duly organized under the laws of the State(s) of.............................., hereinafter called the Company:

Witnesseth that—

(*a*) Whereas by a proclamation dated December 26, 1917, the President, acting under the powers conferred on him by the Constitution and laws of the United States, by the joint resolutions of the Senate and House of Representatives bearing date April 6 and December 7, 1917, respectively, and particularly under the powers conferred by section 1 of the act of Congress approved August 29, 1916, entitled "An act making appropriations for the support of the Army for the fiscal year ending June 30, 1917, and for other purposes," took possession and assumed

control at 12 o'clock noon on December 28, 1917, of certain railroads and systems of transportation, including the railroad and transportation system of the Company and the appurtenances thereof, and directed that the possession, control, operation, and utilization of the transportation systems thus taken should be exercised by and through William G. McAdoo, appointed Director General of Railroads; and

(*b*) WHEREAS the Congress of the United States, by an act approved March 21, 1918, hereinafter called the federal control act, has authorized the President to enter into agreements with the companies owning the railroads and systems thus taken over for the maintenance and upkeep of the same during the period of federal control, for the determination of the rights and obligations of the parties to the agreement arising from or out of federal control, including the compensation to be received or guaranteed, and for other purposes, as in said act more fully set out, and authorize the President to exercise any of the powers by said act or theretofore granted him with relation to federal control through such agencies as he might determine; and

(*c*) WHEREAS by a proclamation dated March 29, 1918, the President, acting under the federal control act and all other powers him thereto enabling, authorized the Director General, either personally or through such divisions, agencies, or persons as he may appoint, and in his own name or in the name of such divisions, agencies, or

persons, or in the name of the President, to agree with the carriers, or any of them, or with any other person in interest, upon the amount of compensation to be paid pursuant to law, and to sign, seal, and deliver in his own name or in the name of the President or in the name of the United States such agreements as may be necessary and expedient with the several carriers or other persons in interest respecting compensation, or any other matter concerning which it may be necessary or expedient to deal, and to make any and all contracts, agreements, or obligations necessary or expedient and to issue any and all orders which may in any way be found necessary and expedient in connection with the federal control of systems of transportation, railroads, and inland waterways as fully in all respects as the President is authorized to do, and generally to do and perform all and singular the acts and things and to exercise all and singular the powers and duties which in and by the said act, or any other act in relation to the subject thereof, the President is authorized to do and perform; and

(*d*) WHEREAS the Interstate Commerce Commission has certified to the President that the amount of the average annual railway operating income of the Company, computed in the manner provided in section 1 of the federal control act, is.....................dollars and .... cents ($........), subject to such changes and corrections as the Commission may hereafter determine and certify to be requisite in order that the accounts and reports of the Company used by the

Commission as the basis of computing said average annual railway operating income may be brought into conformity with the accounting rules or regulations of the Commission in force at the time of such accounting, or in order to correct computations based on such accounts or reports.

Now, Therefore, the parties hereto, each, in consideration of the agreements of the other herein contained, do hereby covenant and agree to and with each other as follows:

SECTION 1.—PRIVITY, ALTERATIONS, DEFINITIONS, ETC.

SEC. 1. (*a*) This agreement shall be binding upon the United States, the Director General and his successors, and upon the Company, its successors, and assigns.

This agreement shall not be construed as creating any right, claim, privilege, or benefit against either party hereto in favor of any State or any subdivision thereof, or of any individual or corporation other than the parties hereto.

(*b*) The provisions of this agreement may be altered, amended, or added to by and only by mutual consent signified by instruments in writing signed by the Director General and by some officer of the Company thereto duly authorized by the Board of Directors of the Company.

(*c*) Wherever in this agreement the word "Commission" is used it shall be understood as meaning the Interstate Commerce Commission, acting by divisions or otherwise as authorized by

law; but either party shall have the right to have the decision of any division reviewed by the Commission sitting as a whole.

(*d*) Wherever in this agreement the words "federal control" are used to indicate a period of time, they shall be understood as meaning the period from 12 o'clock midnight of December 31, 1917, to and including the day and hour on which said control shall cease.

(*e*) Wherever in this agreement the words "test period" are used, they shall be understood as meaning the period between July 1, 1914, and June 30, 1917, both inclusive.

(*f*) Wherever in this agreement the words "standard return" are used, they shall be understood as meaning the average annual railway operating income of the Company, computed in the manner provided in section 1 of the federal control act, and ascertained and certified by the Commission.

(*g*) Wherever in this agreement the words "Director General" are used, they shall be understood as designating William G. McAdoo, or such other person as the President may from time to time appoint to exercise the powers conferred on him by law with relation to federal control, or such agents or agencies as the Director General may from time to time appoint for the purpose; and wherever by this agreement any notice is to be given by the Director General, the same may be

given in his name by any subordinate thereto duly authorized.

(*h*) Wherever the property of the company is referred to in this agreement it shall be understood as including all the property described in paragraph (*a*) of section 2 hereof, whether owned by or leased to the Company, and, where the context permits, all additions or betterments thereto or extensions thereof made during federal control; and as to all such leased property the Company shall have the benefit of and be subject to all the obligations and provisions of this agreement and shall be subject to all duties imposed by law in respect of such leased property.

(*i*) The descriptive words at the heads of the several sections of this agreement and the table of contents are inserted for convenience merely, and are not to be used in the construction of the agreement.

SECTION 2.—PROPERTY TAKEN OVER

SEC. 2. The Company's railroad and system of transportation of which the President has taken over possession, use, control, and operation shall be considered as including:

(*a*) The following roads and properties:

together with all branches and tracks, trackage, bridge, and terminal rights, and lines of railroad

owned by or leased to and operated by the Company as a part of its system of transportation, and all other property of the Company with the appurtenances thereof, whether included in the foregoing list or not, the revenues of which were used, or which, if the property had been then owned by or leased to it and had then been revenue bearing, would have been used, in computing the Company's standard return.

The Company reserves to itself the benefit of all leases (and of all rents and revenues accruing therefrom), of parts of its right of way, station grounds, and other property, the revenues from which under the accounting rules of the Commission in force during the test period were properly creditable to "miscellaneous rent income" or "miscellaneous income." The Company grants to the Director General all its rights to terminate leases of any part of its right of way, yards, or station grounds, and to occupy and use the premises of any such lessee when, in his judgment, the same is required for operating purposes. The Company shall have for its own benefit the right to lease for industrial sites or other purposes such portion of its right of way, yards, or station grounds, or structures thereon, as are not required by the Director General for operating purposes, and to receive and enjoy the rentals therefrom, subject to the right of the Director General to cancel any such lease and to occupy the premises or structures whenever, in his judgment, the same are necessary for operating purposes. All expenses connected with any such property heretofore or hereafter leased or otherwise oc-

cupied, as in this paragraph provided, including taxes thereon which during the test period were not charged to railway tax accruals, shall be paid by the Company while receiving the revenues therefrom.

(*b*) All materials and supplies on hand at midnight December 31, 1917.................

(*c*) All balances in the account or accounts representing the total of "Net balance receivable from agents and conductors" as of midnight December 31, 1917.

Section 3.—Acceptance

Sec. 3. (*a*) The Company accepts all the terms and conditions of the federal control act and any regulation or order made by or through the President under authority of said act or of that portion of the act approved August 29, 1916, referred to in paragraph (*a*) of the preamble to this agreement which authorizes the President in time of war to take possession, assume control, and utilize systems of transportation; and the Company further and expressly accepts the covenants and obligations of the Director General in this agreement set out and the rights arising thereunder in full adjustment, settlement, satisfaction, and discharge of any and all claims and rights, at law or in equity, which it now has or hereafter can have, otherwise than under this agreement, against the United States, the President, the Director General, or any agent or agency thereof, for com-

pensation under the Constitution and laws of the United States for the taking possession of its property, and for the use, control, and operation thereof during federal control, and for any and all loss and damage to its business or traffic by reason of the diversion thereof or otherwise which has been or may be caused by said taking or by said possession, use, control, and operation.

No claim is made by the Company for compensation for the period between noon of December 28 and midnight of December 31, 1917; and the revenues of said period shall belong to the Company, and the expenses thereof shall be paid by the Company, allocated in both cases as provided in paragraph (*b*) of section 4 hereof.

(*b*) The Company, on its own initiative or upon the request of the Director General, shall take all appropriate and necessary corporate action to carry out the obligations assumed by it in this agreement or lawfully imposed upon it by or pursuant to the proclamation of December 26, 1917, or by the federal control act.

(*c*) The federal control act being in section 16 thereof expressly declared to be emergency legislation enacted to meet conditions growing out of war, nothing in this agreement shall be construed as expressing or prejudicing the future policy of the Federal Government concerning the ownership, control, or regulation of the Company, or the method or basis of the capitalization thereof, and the recitals or provisions of this agreement shall not be used, as evidence or otherwise, by or

against either party hereto in any pending or future proceeding which involves the acquisition or valuation of the Company's property or any part thereof; but nothing in this paragraph shall be taken or construed as affecting the settlement and discharge contained in paragraph (*a*) of this section, nor as limiting or qualifying any of the provisions of said paragraph for the purposes thereof, nor as limiting the use of this agreement as evidence in any proceeding under this agreement or under the federal control act.

Section 4.—Operation and Accounting During Federal Control

Sec. 4. (*a*) All amounts received by the Director General under paragraph (*c*) of section 2 hereof and all other amounts whether received from the Company in cash or collected or realized upon by him from current operating assets belonging to the Company or arising from railway operations prior to midnight of December 31, 1917, shall be credited by him to the Company; and the Director General shall, to the extent of the cash so received or realized, pay and charge to the Company all expenses arising out of railway operations prior to January 1, 1918, including reparation claims, and, unless objected to by the Company, may pay and charge to the Company any of such expenses, including reparation claims, in excess of the cash so received or realized. Balances of the above accounts shall be struck quarterly on the last days of March, June, September, and December of each year, and the cash balance

found on such adjustments to be due either party shall be then payable and, if not paid, shall bear interest at the rate of 6 per cent per annum, unless the parties shall agree upon a different rate; except that the rate of interest on any portion of a balance found due to the Company which is derived from cash in bank to the credit of such Company on interest, shall be adjusted in each case independently of this contract as the parties may agree.

(*b*) Railway operating expenses, reparation and other claims, hire of equipment and joint facility rents shall be allocated with reference to the time when incurred as between the period prior and subsequent to midnight of December 31, 1917, and as between the period of Federal control and the period subsequent thereto. Railway operating revenues shall be allocated as between the period prior and subsequent to midnight of December 31, 1917, in accordance with the established accrual practises of the Company; except that where prior to midnight of December 31, 1917, the Company's part of a service on through business had been completed or carload lots on its own line had reached destination, the revenue of the Company for such service shall be allocated to it; but as to classes of traffic where in the opinion of the Director General such allocation will involve undue delay or undue absorption of accounting labor, such revenues shall be allocated in accordance with the established accrual practises of the Company. Like methods of ac-

cruing and allocating such revenues shall be made at the end of federal control.

(*c*) All expenditures made by the Director General during federal control for additions and betterments, exclusive of equipment, or for extensions begun prior to January 1, 1918, shall be charged to the Company, and if the completion of any such addition, betterment, or extension is approved or ordered by the Director General, the Company shall be entitled under the provisions of paragraph (*d*) of section 7 hereof to interest on the cost thereof from the completion of the work; but no interest (except to the extent that the same may be allowed and included in the compensation provided for in paragraph (*a*) of section 7 hereof) shall be due the Company upon any such expenditures for work done prior to January 1, 1918. Payments for all equipment ordered or under construction by the Company prior to January 1, 1918, but delivered on or after that date, shall also be considered as expenditures made by order or approval of the Director General under paragraph (*d*) of section 7 hereof. Interest during construction payable under this paragraph, and also interest during construction on the cost of any additions, betterments, and road extensions made by the Company or at its expense to the Company's property during federal control, shall be included in the cost of the work.

(*d*) Cash receipts or disbursements and other items arising out of transactions which do not enter into or form a part of those used in deter-

mining the Company's standard return shall not be received or paid by the Director General unless such transactions are negotiated or conducted by his order for account of the Company and with its consent. When moneys are so received or paid by the Director General in connection with such corporate transactions they shall be credited or charged to the Company. There shall be an accounting of the amounts due by one party or the other under this paragraph at the end of each quarter year of federal control, and the amount so found due shall be then payable and if not paid shall bear interest as provided in paragraph (*a*) of this section.

(*e*) All sums paid by the Director General to maintain pension funds or pension obligations or practises, and all contributions to Young Men's Christian Associations of employees, employees' savings funds, relief funds or associations, reading rooms, or health, accident, or death benefits for employees, shall be treated as a part of railway operating expenses during federal control.

(*f*) All salaries and expenditures incurred by the Company during federal control for purposes which relate to the existence and maintenance of the corporation, or to the properties of the Company not taken over by the President, or to negotiations, contracts, valuations, or any business controversy with the Government or any branch thereof, and which are not specially authorized by the Director General, shall be borne by the Company; except that the expenses of valuation

now being made by the Commission to the extent that they are, in the opinion of the Director General, necessary to comply with the valuation orders and other requirements of the Commission and to the cooperation of the Company in the making of such valuation, shall be paid by the Director General as a part of railway operating expenses. If the Company is dissatisfied with the ruling of the General Director it may appeal to the Commission, whose decision shall be final.

(*g*) The Director General shall furnish for additions, betterments and road extensions to the Company's property approved or ordered by him any of the materials and supplies taken over under paragraph (*b*) of section 2 hereof, or purchased by him and held for use in connection with the Company's property, in so far as, in his judgment, he can do so with due regard to his own requirements. Materials and supplies so furnished shall be charged to the Company at cost.

(*h*) The Director General shall at his option be substituted for the period of federal control in the place of the Company in respect of the benefits and obligations of contracts relating to operation in force January 1, 1918, (including contracts made by subsidiaries for the use and benefit of the Company and the right to abrogate or change and make new contracts with express companies for the period of federal control), except as to contracts between the Company and subsidiary companies which shall be considered and treated as arrangements or practises; and the Director

General shall in like manner at his option be substituted for such period in respect of the benefits and obligations of arrangements and practises in force during the test period in regard to fuel, materials, and supplies for the operation of the property described in paragraph (*a*) of section 2 hereof and of any additions, betterments, and road extensions thereto, obtained from any mine, oil field, or other source of supply owned or controlled by the Company, it being understood that under such arrangements or practises, if availed of by the Director General, he shall, to the extent necessary to off-set any increase in the standard return growing out of the furnishing by the Company or of its subsidiaries, during the test period, of fuel, materials, and supplies under an arrangement or practise at less than the then cost or the then market value thereof for railroad purposes, be charged for such fuel, materials, and supplies a price expressed in dollars or cents per unit below or above the then cost or the then market value thereof for railroad purposes (as the practise of the Company may have been) in the same amount that the prices charged the Company during the test period were below or above the then cost or the then market value thereof for railroad purposes; and at the request of the Director General or the Company the prices for fuel or materials supplied between December 31, 1917, and the execution of this contract shall be adjusted on the foregoing basis: *Provided, however,* That a source of supply which the Company had acquired to safeguard its own operations shall not be depleted or reduced for use on other

transportation systems, except in cases of emergency to be determined by the Director General, in which event the quantity so used on other transportation systems shall be accounted for to the Company at the fair value thereof: *And provided further,* That materials and supplies secured under contracts which the Company had made for its own operations shall, so far as practicable, be used on the Company's property, and that, if used on any other transportation system, materials and supplies of like character shall be furnished by the Director General for use in making such additions, betterments, and road extensions as shall be chargeable to the Company, and shall be charged at cost under such contracts.

(*i*) The Director General shall pay, or save the Company harmless from, all expenses incident to or growing out of the possession, operation, and use of the property taken over during federal control, except the expenses which under this agreement are to be borne by the Company. He shall also pay or save the Company harmless from all rents called in the monthly reports to the Commission equipment rents or joint-facility rents, and all judgments or decrees that may be recovered or issued against, and all fines and penalties that may be imposed upon, the Company by reason of any cause of action arising out of federal control, or of anything done or omitted in the possession, operation, use, or control of the Company's property during federal control, except judgments or decrees founded on obligations of the Company to the Director General or the United States.

(*j*) Except as otherwise provided in this agreement, the Director General shall save the company harmless from any and all liability, loss, or expense resulting from or incident to any claim made against the Company growing out of anything done or omitted during federal control in connection with, or incident to, operation or existing contracts relating to operation, and shall do and perform, so far as is requisite under federal control for the protection of the Company, all and singular the things, of which he may have notice, necessary and appropriate to prevent, because of federal control or of anything done or omitted thereunder, the forfeiture or loss by the Company of any of its property rights, ordinance rights, or franchises, or of its trackage, lease, terminal, or other contracts involving a facility of operation; but nothing herein contained shall be construed to require the Director General to make any capital expenditure necessary to preserve a franchise or ordinance right not heretofore availed of by the Company. The Director General shall also save the Company harmless from any and all claims for breach of covenant heretofore entered into by the Company or by any predecessor in title or interest in any mortgage or other instrument in respect to insurance against losses by fire.

Nothing in this or in the preceding paragraph shall be construed to be an assumption by the Director General of, or to make him liable on, any obligation of the Company to pay a debt secured by a mortgage or any rent under a lease, except rents which during the test period were called in

the monthly reports to the Commission equipment rents and joint facility rents and rents which under the accounting rules of the Commission in force during the test period were classified as operating expenses.

The Company shall, during federal control, pay the rents of any property, held by it under lease or contract, described in paragraph (*a*) of section 2 hereof, except the rents which during the test period were, under the rules of the Commission, classified as equipment rents or joint facility rents, and rents which were classified as operating expenses; which excepted rents shall be paid by the Director General. If the lease of, or right to use, any property described in paragraph (*a*) of said section 2 expires during federal control, the Company shall, if possible, and if requested by the Director General, renew the same; the rental, however, of property in the excepted classes above mentioned shall be paid by the Director General. The Company shall pay the same amount of rent as was payable at the beginning of federal control for other property, the lease of or right to use which is renewed at the request of the Director General, but any increase in the rental of such other property shall be paid by the Director General.

(*k*) In carrying out the provisions of paragraphs (*a*), (*b*), (*c*), and (*d*) of this section and the provisions of section 6 hereof the Director General shall not settle any claim by or against the Company against the objection in writing of the president or of any other duly authorized

officer of the Company. The conduct of all litigation before any court or commission arising out of such disputed claims, or out of operation prior to federal control, shall be in charge of the Director General's legal force and the expense thereof shall be paid by the Director General; but the Company may, at its own expense, employ special counsel in connection with any such litigation.

(*l*) Nothing in this agreement shall be construed as inconsistent with the provision in section 10 of the federal control act that no process, mesne or final, shall be levied against any property under federal control, nor as a waiver by the United States of any claim that might otherwise be made by it that the rights of any State or subdivision thereof or of any individual or corporation have been abrogated or suspended by the taking over of the Company's property or by federal control.

(*m*) The Company shall have the right at all reasonable times to inspect the books and accounts kept by the Director General relating to the property of the Company, or to the operation thereof, and the Director General shall during federal control furnish the Company with a copy of the operating reports relating to its property, and as soon as practicable after the end of each fiscal year shall furnish to the Company a complete list of its equipment as of the end of such fiscal year.

Section 5.—Upkeep

Sec. 5. (*a*) During the period of federal control the Director General shall, annually, as nearly as practicable, expend and charge to railway operating expenses, either in payments for labor and materials or by payments into funds, such sums for the maintenance, repair, renewal, retirement, and depreciation of the property described in paragraph (*a*) of section 2 hereof as may be requisite in order that such property may be returned to the Company at the end of federal control in substantially as good repair and in substantially as complete equipment as it was on January 1, 1918: *Provided, however,* That the annual expenditure and charges for such purposes during the period of federal control on such property and the fair distribution thereof over the same, or the payment into funds of an amount equal in the aggregate (subject to the adjustments provided in paragraph (*c*) and to the provisions of paragraph (*e*) of this section) to the average annual expenditure and charges for such purposes included under the accounting rules of the Commission in railway operating expenses during the test period, less the cost of fire insurance included therein, shall be taken as a full compliance with the foregoing covenant.

(*b*) The Director General may expend such sums, if any, in addition to those expended and charged under paragraph (*a*) of this section (subject to the adjustments provided in paragraph (*c*) of this section) as may be requisite for the safe

operation of the property described in paragraph (*a*) of section 2 hereof, assuming a use similar to the use during the test period and not substantially enhancing the cost of maintenance over the normal standard of maintenance of railroads of like character and business during said period; and the amount, if any, of such excess expenditures during federal control shall be made good by the Company as provided in paragraph (*b*) of section 7 hereof.

(*c*) In comparing the amounts expended and charged under the provisions of paragraphs (*a*) and (*b*) of this section with the amounts expended and charged during the test period, due allowance shall be made for any difference that may exist between the cost of labor and materials and between the amount of property taken over and the average for the test period, and, as to paragraph (*a*), for any difference in use between that of the test period and during federal control which in the opinion of the Commission is substantial enough to be considered, so that the result shall be, as nearly as practicable, the same relative amount, character, and durability of physical reparation.

(*d*) At the request of either party there shall be an accounting of the amounts due by one party or the other under paragraphs (*a*) and (*b*) of this section at the end of each year of federal control and at the end of federal control.

(*e*) If during federal control any of the property described in paragraph (*a*) of section 2 here-

of or any replacement thereof or addition thereto or betterment or extension thereof is destroyed or damaged otherwise than by fire or public enemies, and is not restored or replaced by the Director General, he shall reimburse the Company the value of the property destroyed or the amount of the damage at the time of the loss, and the cost of restoration or replacement, or said value or damage, as the case may be, shall be charged to annual railway operating expenses; it being understood that extraordinary losses caused by floods, explosions, train wrecks, or accident are included in the matters covered by this paragraph, while ordinary losses due to such causes are included in the matters covered by paragraph (*a*) of this section: *Provided, however*, That if the Commission, on application of either party and after giving due consideration to the practise of the Company during the test period in respect to such matters and to any other pertinent facts and circumstances, determines that it is just and reasonable that the said cost or value shall be apportioned or extended over a period of more than one year, this shall be done, and so much of said cost or value as may be apportioned by the Commission over the period subsequent to federal control, shall be charged to the Company in the final accounting at the end of federal control and shall be paid by it.

If, during federal control, any of the property described in paragraph (*a*) of section 2 hereof or any replacement thereof or addition thereto or betterment or extension thereof is destroyed or

damaged by fire, and is not restored or replaced by the Director General, he shall reimburse the Company the value of the property destroyed or the amount of the damage at the time of the fire; and the cost of restoration or replacement or said value or damage, as the case may be, shall be charged to annual railway operating expenses, but the same shall not be considered a charge to such expenses for the purposes specified in paragraph (*a*) of this section.

In case of any such loss or damage by fire, the Director General shall, if given written notice of the requirements of any mortgage, equipment lease, or trust on the property so destroyed or damaged, make such restoration or replacement, or pay such value or damage, in such way as to meet the requirements of such mortgage, equipment lease, or trust in the same manner as would have been proper in applying the proceeds of insurance on such property if it had been insured by the Company against loss or damage by fire in accordance with the terms of such instruments of lien; and a compliance with the written request of the Company in respect thereof shall be a full acquittance of any obligation of the Director General in the premises.

The foregoing parts of this paragraph are subject to the proviso that in case of loss or damage any additions and betterments made in connection with or as a part of the restoration or replacement of property damaged or destroyed and chargeable under the accounting rules of the Commission in force December 31, 1917, to investment

in road and equipment, shall be charged to and paid by the Company.

The Director General shall not be liable to the Company for any loss or damage due to the acts of public enemies.

(*f*) If any additions, betterments, or road extensions are made to the property taken over or any equipment is added at the expense of the Company and with the approval or by order of the Director General during federal control, he shall expend and charge to railway operating expenses such sums either in payments for labor and materials or by payments into funds, as may be requisite for the proper maintenance, repair, renewal, retirement, and depreciation of such property until the end of federal control.

(*g*) The Company shall have the right to inspect its property at all reasonable times during federal control, and the Director General shall provide reasonable facilities for such inspection.

(*h*) If any question shall arise, either during or at the end of federal control, as to whether the covenants or provisions in this section contained are being or have been observed, the matter in dispute shall, on the application of either party, be referred to the Commission which, after hearing, shall make such findings and order as justice and right may require, which shall be final as to the questions submitted and shall be binding on and observed by both parties hereto, except that either party may take any question of law to the courts, if he or it so desires.

Section 6.—Taxes

Sec. 6. (*a*) All taxes assessed under federal or any other governmental authority for the period prior to January 1, 1918, including a proportionate part of any such tax assessed after December 31, 1917, for a period which includes any part of 1917 or preceding years, and unpaid on that date, all taxes commonly called war taxes which have been or may be assessed against the Company under the act of Congress entitled "An Act to provide revenue to defray war expenses and for other purposes," approved October 3, 1917, or under any act in addition thereto or in amendment thereof, and all taxes which have been or may be assessed on property under construction, and all assessments which have been or may be made for public improvements, chargeable under the accounting rules of the Commission in force December 31, 1917, to investment in road and equipment, shall be paid by the Company; but upon the amount thus chargeable to investment interest shall be paid to the Company during federal control at the rate provided in paragraph (*d*) of section 7 hereof. Taxes assessed during construction on additions, betterments, and road extensions made by the Company with the approval or by order of the Director General during federal control, shall be considered a part of the cost of such additions, betterments, and extensions and shall, under the provisions of paragraph (*d*) of section 7 hereof, bear interest as a part of such cost from the date of the completion of such additions, betterments, or extensions. As-

sessments for public improvements which do not become a part of the property taken over shall bear interest from the date of the payment of such assessment.

(*b*) If any tax or assessment which under this agreement is to be paid by the Company is not paid by it when due, the same may be paid by the Director General and deducted from the next installment of compensation due under section 7 hereof. If any taxes properly chargeable to the Director General have been or shall be paid by the Company, it shall be duly reimbursed therefor.

(*c*) The Director General shall either pay out of revenues derived from railway operation during the period of federal control or shall save the Company harmless from all taxes lawfully assessed under federal or any other governmental authority for any part of said period on the property under such control, or on the right to operate as a carrier, or on the revenues derived from operation, and all other taxes which under the accounting rules of the Commission in force December 31, 1917, are properly chargeable to "railway tax accruals," except the taxes and assessments for which provision is made in paragraph (*a*) of this section. The Director General shall pay or save the Company harmless from the expense of all suits respecting the classes of taxes payable by him under this agreement.

(*d*) If any such tax is for a period which began before January 1, 1918, or continues beyond the period of federal control, such portion of such tax as may be apportionable to the period of federal control shall be paid by the Director General, and the remainder shall be paid by the Company.

(*e*) Whenever a period for which a tax is assessed can not be definitely determined, so much of such tax as is payable in any calendar year shall be treated as assessed for such year.

Section 7.—Compensation

Sec. 7. (*a*) The annual compensation guaranteed to the Company under section 1 of the federal control act shall be the sum of................. dollars and............cents ($..........) during each year and pro rata for each fractional part of a year of federal control, subject, however, to any increase or decrease in the standard return hereafter made by the Commission as provided in paragraph (*d*) of the preamble of this agreement.

(*b*) The said compensation shall be paid to the Company quarterly in equal installments on the last days of March, June, September, and December of each year for the quarter ending therewith, except that the first three installments shall be due as of March 31, 1918, June 30, 1918, and September 30, 1918, respectively, but shall be paid upon the execution of this agreement; but from each installment there may be deducted any amount

then due by the Company under paragraphs (*a*) and (*d*) of section 4 hereof, under paragraph (*b*) of section 5 hereof, and under paragraph (*b*) of section 6 hereof, and all amounts required to reimburse the United States for the cost of additions and betterments made to the property of the Company not justly chargeable to the United States, unless such matters are financed or otherwise taken care of by the Company to the satisfaction of the Director General, and the Director General may apportion any such amounts to two or more subsequent installments: *Provided, however,* That said power to deduct amounts due or accruing under paragraph (*b*) of section 5 hereof and the cost of additions and betterments not justly chargeable to the United States shall not be so exercised as to prevent the Company from paying out the sums reasonably required to support its corporate organization, to keep up sinking funds for the Company's debts required by contracts in force December 31, 1917, to pay its taxes, to pay rents and other amounts (not chargeable to capital account) properly payable by the Company for leased or operated roads and properties, to pay interest which has heretofore been regularly paid by the Company, and interest on loans issued during federal control and approved by the Director General, nor shall such deduction be made in respect of additions and betterments which are for war purposes and not for the normal development of the Company, nor in respect of road extensions, nor in respect of amounts due under paragraphs (*a*) and (*d*) of section 4 hereof, in cases where the current as-

sets, including materials and supplies, of the Company taken over by the Director General under the provisions of this agreement clearly exceed the current liabilities of the Company paid or assumed by the Director General under said section. In the event of a difference as to the fact whether additions and betterments are for war purposes and not for the normal development of the Company, or as to whether an addition is a road extension, the question may, on application of either party, be referred to and determined by the Commission.

The power provided in this paragraph to deduct the amount due by the Company for the cost of additions and betterments not justly chargeable to the United States is further declared to be an emergency power, to be used by the Director General only when he finds that no other reasonable means is provided by the Company to reimburse the United States, and, as contemplated by the President's proclamation and by the federal control act, it will be the policy of the Director General to so use such power of deduction as not to interrupt unnecessarily the regular payment of dividends as made by the Company during the test period.

Overdue installments of compensation, or balances thereof, provided for in this section shall bear interest from maturity at the rate of five per cent per annum, except that if the Director General shall, prior to the execution of this contract, have loaned the Company any money, the installments of compensation overdue at the date of the execution hereof shall bear interest from maturity

at the same rate as that charged to the Company on such loans.

(*c*) During federal control the Company shall not, without the prior approval of the Director General, issue any bonds, notes, equipment trust certificates, stock, or other securities, or enter into any contracts (except contracts in respect of corporate affairs and property not taken under federal control), or agree to pay interest on its debt at a higher rate, or for rent of leased roads and properties a larger amount, than the rates and amounts payable as of, or required by contracts in force on, December 31, 1917. The Company may, however, procure the authentication and delivery to it under any mortgage or trust deed or agreement in force December 31, 1917, of bonds or notes issuable thereunder in respect of additions, betterments, extensions, and equipment, or for refunding purposes.

(*d*) Upon the cost of additions and betterments, less retirements in connection therewith, and upon the cost of road extensions, made to the property of the Company during federal control, the Director General shall, from the completion of the work, pay the Company a reasonable rate of interest, to be fixed by him on each occasion. In fixing such rate or rates he may take into account not merely the value of money but all pertinent facts and circumstances, whether the money used was derived from loans or otherwise, provided that to the extent that the money is advanced by

the Director General or is obtained by the Company from loans or from the proceeds of securities the rate or rates shall be the same as that charged by the Director General for loans to the Company or to other companies of similar credit.

(*e*) From its compensation so received or from other income, if adequate for the purpose, the Company shall make all payments of interest, rent (other than the equipment rents, joint facility rents, and rents classified as operating expenses, mentioned in paragraph (*j*) of section 4 hereof), and other sums necessary to prevent a default under any mortgage or lease of any of the property described in paragraph (*a*) of section 2 hereof; and if at any time during federal control the Company, by virtue of any change in the right of possession (subject to the rights of the United States) to any of said property or otherwise, shall no longer be entitled as between itself and any other person or corporation to receive the entire compensation herein provided, such compensation shall be apportioned and paid, as between the parties entitled thereto, as justice and right may require.

SECTION 8.—CLAIMS FOR LOSSES ON ADDITIONS, ETC.

SEC. 8. (*a*) Prompt notice in writing, except as provided in paragraph (*d*) of this section, shall be given the Company of the making or ordering of any additions, betterments, or road extensions, including terminals, motive power, cars, or other equipment to or for the property of the Company

costing more than one thousand dollars, with an estimate of the cost thereof. Such notice shall be given before the beginning of the work or the acquisition of the property whenever in the judgment of the Director General it is practicable to do so. Within a reasonable time after the completion of the work or the acquisition of the property, a written statement of the final cost thereof shall be given the Company. There shall be furnished the Company, as soon as practicable after the end of each month, a written statement of all expenditures estimated to cost one thousand dollars or less chargeable to investment in road and equipment made during the month, with a brief description of the work done or of the property acquired; and such statement shall constitute all the notice of additions and betterments costing one thousand dollars or less required by (*b*) and (*c*) of this section. The notices provided in this paragraph may be given to the president of the Company unless the Company designates some other officer to receive the same, in which event the notice shall be given to such other officer.

(*b*) Any claim of the Company for loss accruing to it by reason of expenditures for additions and betterments made to the property of the Company during federal control in connection with or as a part of the work of maintaining, repairing, and renewing the Company's property and chargeable under the accounting rules of the Commission in force December 31, 1917, to investment in road and equipment, except such expenditures as are incurred in connection with the replacement of

buildings and structures in new locations, may be determined by agreement between the Director General and the Company, or, failing such agreement, as to the fact or amount of such loss, the questions at issue may, upon the application of either party at any time after the filing of the statement of claim hereinafter referred to, be ascertained in the manner provided in section 3 of the federal control act: *Provided, however,* That no loss shall be claimed by the Company and no money shall be due to it in respect of such additions and betterments upon the ground that the actual cost thereof at the time of construction was greater than under other market and commercial conditions; and for the purpose of determining such controversy the amount paid for any addition or betterment shall be deemed the fair and reasonable cost thereof and shall be taken as the basis for such determination; nor unless the Company, within sixty days of notice to it that the work will be done, shall give the Director General notice of objection thereto and shall file with the Director General a statement of its claim within ninety days after notice of the completion of the work.

(*c*) Any claim of the Company for loss accruing to it by reason of any additions and betterments which are not made in connection with or as a part of the work of maintaining, repairing, and renewing the Company's property, or accruing to it in connection with maintenance in the replacement of buildings and structures in new locations, or by reason of road extensions, terminals, motive power, cars, or other equipment made to or pro-

vided for the property of the Company during federal control, may be determined by agreement between the Director General and the Company, or failing such agreement as to the fact or amount of such loss, may, by proceedings instituted not later than six months after the end of federal control, be ascertained in the manner provided in section 3 of the federal control act: *Provided, however,* That no loss shall be claimed by the Company and no money shall be due to it in respect of such additions, betterments, road extensions, terminals, motive power, cars, or other equipment mentioned in this paragraph upon the ground that the actual cost thereof at the time of construction or acquisition was greater than under other market and commercial conditions; and for the purpose of determining such controversy the amount paid for any additions, betterments, road extensions, terminals, motive power, cars, or other equipment shall be deemed the fair and reasonable cost thereof and shall be taken as the basis for such determination; nor unless within sixty days after notice to the Company of such construction or acquisition written notice is given to the Director General by the Company that it will claim a loss in respect thereof. With and as a part of such notice the Company shall state its objections to such construction or acquisition as far as reasonably practicable at the time. Nothing in this agreement shall be construed as barring the United States from contending that no loss within the meaning of the federal control act accrued to the Company by reason of any additions, betterments, or road extensions made dur-

ing federal control by order or approval of the Director General, if it is made to appear that the Company itself but for federal control should in the exercise of sound judgment have made such addition, betterment or road extension.

(*d*) Where additions, betterments, or road extensions or terminals, motive power, cars, or other equipment have been made to or provided for the property of the Company during federal control but prior to the execution of this agreement, the Director General shall not be required to give the notice thereof provided for in paragraph (*a*) of this section and notice by the Company of any claim of loss in respect thereto may be given the Director General within ninety days after the execution hereof; and such claims shall thereafter be proceeded with in the manner provided in paragraph (*b*) or paragraph (*c*) of this section, as the case may be.

(*e*) The Director General shall reimburse the Company for the amount of loss ascertained under this section with a proper adjustment of interest thereon.

(*f*) The Director General shall not acquire any motive power, cars, or other equipment at the expense, or on the credit, of the Company in excess of what in his judgment is necessary, in addition to its then existing equipment, to provide for the traffic requirements of its own system of transportation; but this provision shall not prevent the Director General, after the acquisi-

tion of such equipment, from using the same, or any part thereof, on the line of any other transportation system operated by him.

Section 9.—Final Accounting

Sec. 9. (*a*) At the end of federal control all the property described in paragraph (*a*) of section 2 hereof shall be returned to the Company, together with all repairs, renewals, additions, betterments, replacements, and road extensions thereto which have been made during federal control, except as any part thereof may have been destroyed or retired and not replaced, in which case the provisions of section 5 hereof shall govern and except that the Director General shall not be obliged to restore or replace property destroyed or damaged by the acts of public enemies.

(*b*) At the end of federal control the Director General shall return to the Company all uncollected accounts received by him from the Company and also materials and supplies equal in quantity, quality, and relative usefulness to that of the materials and supplies which he received and to the extent that the Director General does not return such materials and supplies he shall account for the same at prices prevailing at the end of federal control. To the extent that the Company receives materials and supplies in excess of those delivered by it to the Director General it shall account for the same at the prices prevailing at the end of federal control, and the balance shall be adjusted in cash.

(*c*) The total amount of the account "Net balance receivable from agents and conductors" at the end of federal control may be turned over by the Director General to the Company. He may also turn over all assets which have accrued out of operation; and the Company shall, to the extent of the cash received or realized from such assets, pay and charge to the Director General all expenses arising out of railway operations during federal control, including reparation and other claims, and may, unless objection is made by the Director General, pay and charge to him any such expenses including reparation and other claims in excess of the cash so received or realized. On the first day of the third month following the termination of federal control an accounting between the parties shall be had, and so on the first of each third month thereafter. Any balance found due either party shall be payable as of the date on which the account is stated and shall bear interest until paid.

(*d*) At the end of federal control there shall be paid to the Company any balance then remaining unpaid of the cash received from the Company at the beginning of or during federal control, together with any unpaid interest which may have accrued upon the same. There shall also be paid to the Company any funds created under the provisions of this agreement, except to the extent that such funds may have been properly used under this agreement.

(*e*) Wherever under any provision of this section there is to be an adjustment of interest, it shall be at the rate of five per cent per annum unless the parties shall in any case agree on a different rate.

(*f*) After federal control no claim by or against the Director General shall be settled by the Company against the written objection of the Director General or the Attorney General of the United States. The conduct of all litigation before any court or commission arising out of such disputed claims or out of operations during federal control shall be in charge of the Company's legal force and the expense thereof shall be paid by the Company; but the Director General or the Attorney General may, at the expense of the United States, employ special counsel in connection with any such litigation.

EXECUTION

Reprinted by permission from *The Annals* of the American Academy of Political and Social Science, Philadelphia, November, 1919. Publication No. 1342.

The Accomplishments of the United States Railroad Administration in Unifying and Standardizing the Statistics of Operation

By William J. Cunningham

Assistant Director of Operation, United States Railroad Administration*

THE standardization of statistics of operation, brought about by the centralized control of the United States Railroad Administration, was intended primarily to aid the Director General and his staff, the Regional Directors, and the Federal Managers of the individual railroads, in keeping closer check on the efficiency of operation, as measured by units of transportation, equipment utilization and operating costs. Railroad officers, as a whole, now know more than they knew before about the details of the operation of their own properties, and they now know very much more than they knew before about their relative performance in comparison with neighboring roads. The publication of the monthly summaries by roads and by regions makes possible easy comparison of the

* Professor of Transportation, Harvard University, on leave of absence.

results on one road with those of other roads operating under similar conditions, and enables each Regional Director to measure the efficiency of his region with that of neighboring regions without uncertainty or qualification as to bases and methods.

The value of the information made available by the new plan is not confined to railroad managers. The published summaries have opened up to the public regulating authorities, economists, investors and other students of transportation, a wealth of data which heretofore have not been available in comprehensive form or on uniform bases. This phase of the subject is of interest to the readers of *The Annals*, and it will be largely from this viewpoint that the following description of the plan, and the discussion of its underlying principles, will be undertaken.

Statistical Requirements of the Interstate Commerce Commission

At this point it is important to draw attention to the fact that the Interstate Commerce Commission in its classifications of revenues and expenses has made very little provision for statistics of operation. The emphasis throughout all of the classifications, and in the data required in the annual report, has been placed upon the features of finance and public service. By combinations of the statistics of transportation production, (ton-miles and passenger-miles) with statistics of train-, locomotive-, and car-mileage, it is possible to derive a few statistical units, such as the

average net freight train-load, the passengers per train-mile, the tons per loaded freight car-mile, and the passengers per passenger car-mile. It is possible also to derive a few unit costs for the transportation service *as a whole,* but, generally speaking, the annual report form of the Commission does not provide sufficient data for the purposes of the analyst of operating efficiency.

This comment is not intended as a criticism. The standardization of railroad accounting is one of the noteworthy achievements of the Interstate Commerce Commission. It meets the requirements of the original Act to Regulate Commerce, and of its amendments. Section 20 of that Act, as amended, instructs the Commission to provide for "a uniform system of accounts and the manner in which such accounts shall be kept" and especially refers to

> capital stock issued, the amounts paid therefor, and the manner of payment for the same; the dividends paid, the surplus fund, if any, and the number of stockholders; the funded and floating debts and the interest paid thereon; the cost and value of the carrier's property, franchises, and equipments; the number of employees and the salaries paid each class; the accidents to passengers, employees, and other persons, and the causes thereof; the amounts expended for improvements each year, how expended, and the character of such improvements; the earnings and receipts from each branch of business; the balances of profit and loss; and a complete exhibit of the financial operations of the carrier each year, including an annual balance sheet. Such reports shall also contain such information in relation to rates or regulations concerning fares or freights, or agreements, arrangements, or contracts affecting the same as the Commission may require . . .

The absence of any reference to statistics which reflect the degree of operating efficiency is apparent. The viewpoint is that of protection of those who pay the freight, those who travel, and those who invest their money in railroad securities. The uniform system of accounts, therefore, does not include within its scope any standards of cost accounting nor any indices (in detail) of managerial efficiency, except those which are reflected by the totals of the income account, the balance sheet, and the profit and loss account.

In the absence of required standards, the railroads continued and developed their own statistical systems individually, and there grew to be wide divergencies in practise, ranging from an almost entire absence of statistics other than those required by the Commission, to elaborate cost accounting and efficiency data. There was no uniformity, either as to the general scope of operating statistics or as to the methods or bases. Each railroad evolved its own statistical standards according to its own conception of what was necessary or desirable, and in each case the system, to a large extent, was a reflex of the interest taken personally in the figures by those in managerial authority. It was, therefore, extremely difficult for one road to compare its operating statistics with those of its neighbors, as there was seldom any assurance that the units bearing the same title really meant the same thing. For example, in the important feature of freight car utilization, Road A would compute its "Average miles per car day" by including every freight car on its lines; Road B would exclude cars stored;

Road C would exclude cars held under repairs or awaiting repairs as well as those stored. Some roads took count of the cars on the line once every month and used that as the divisor. Others took the average of two or four counts per month. Others took the daily average. In practically every unit of performance there were variations in practise which prevented comparisons without qualifications of some kind.

Under pre-war conditions, when each road or system was operated as an independent unit, this lack of standardization was not highly important. When, however, the roads were taken over by the Government, and operation was begun as a single system under centralized management, this lack of statistical standardization was extremely embarrassing. For the purposes of intelligent control, centrally and by regions, a standardized plan was vital.

Standardization by United States Railroad Administration

The Operating Statistics Section of the United States Railroad Administration was created on May 6, 1918, as a part of the Division of Operation, and instructed to "arrange for, and supervise, the making of standardized reports and statistics pertaining to the maintenance and operation of railroads under federal control, and to make such compilations of statistics as may be required.

The first work of the section was to design the standard forms. The aim was to continue the best

in current practise, and at the same time to avoid placing too great a burden on the roads which had not been progressive in that respect. An effort was made to utilize all of the basic data required by the annual report forms of the Interstate Commerce Commission, and to superimpose upon that structure the additional information considered essential to a scientific exhibit of the more important phases of physical performance. The plan, as promulgated in August, 1918, did not completely embrace its intended scope, (as it was the intention to go into the details of maintenance of way and equipment, and into certain further details of transportation expenses) but the initial requirements are scientifically comprehensive without being carried so far toward the ideal as to be impracticable or unjustifiably burdensome.

List of Regular Monthly Reports

Form 1, Freight Train Performance. This form calls for train-miles, locomotive-miles, car-miles, gross ton-miles, rating ton-miles, net ton-miles, train-hours, and the following averages and ratios (separately by directions):

Ratio of locomotive-miles to train-miles
Car-miles per train-mile (loaded, empty and total)
Gross ton-miles per train-mile
Rating (potential) ton-miles per train-mile
Net ton-miles per train-mile
Average speed in train-miles per train-hour
Gross ton-miles per train-hour
Net ton-miles per train-hour
Net ton-miles per loaded car-mile

Per cent loaded car-miles to total car-miles
Per cent net ton-miles to gross ton-miles
Per cent actual gross ton-miles to potential gross ton-miles

Form 2, Passenger, Mixed and Special Train Performance. This form calls for less detail than the report on freight train performance, as the passenger service does not lend itself so readily to statistical control. Freight trains, with certain exceptions, are not run unless there are sufficient cars awaiting movement to make up full train-loads. The passenger service, on the other hand, is practically fixed by the public time-table, and the trains are run regardless of the fluctuations in the number of passengers. The superintendent has little control over the minimum passenger train service, although he can regulate the use of extra cars or extra trains. Form 2 provides for train-mileage, locomotive-mileage, and car-mileage, separated by classes of cars. The statistics are reported separately for passenger trains, mixed trains and special trains. The averages and ratios for passenger trains are:

Ratio of locomotive-miles to train-miles
Car-miles per train-mile
- Passenger cars
- Sleeping, parlor, and observation cars
- Dining cars
- Other passenger train cars
- Total

Form 3, Locomotive Performance. This report calls for statistics of performance and of fuel consumption of freight, passenger and yard switching locomotives. From the basic information are derived the following averages or ratios:

Freight Service

Gross ton-miles per locomotive-mile

Net ton-miles per locomotive-mile

Locomotive-miles per locomotive-day, serviceable locomotives

Locomotive-miles per locomotive-day, all locomotives

Net ton-miles per locomotive-day, all locomotives

Per cent of unserviceable locomotives

Pounds of coal per locomotive-mile

Pounds of coal per 1000 gross ton-miles

Passenger Service

Car-miles per locomotive-mile

Locomotive-miles per locomotive-day, serviceable locomotives

Locomotive-miles per locomotive-day, all locomotives

Per cent of unserviceable locomotives

Pounds of coal per locomotive-mile

Pounds of coal per car-mile

Yard Switching Service

Locomotive-miles per locomotive-day, serviceable locomotives

Locomotive-miles per locomotive-day, all locomotives

Per cent of unserviceable locomotives

Pounds of coal per locomotive-mile

Form 4, Distribution of Locomotive Hours. This is an entirely new report which calls for the

total number of locomotive-hours and their distribution by classes, (freight, passenger, yard switching and others) and a complete record of the hours spent on the road between terminals, the hours spent at terminals before beginning and after completing the road run, the hours spent in the enginehouse, and the hours spent in the shop or awaiting repairs. The aim is first to separate the serviceable from the unserviceable locomotives, and then, for each class of service, to show the division of serviceable locomotive time between hours devoted to the production of train-miles and hours of unproductive time.

Form 5, Freight Traffic Movement and Car Performance. This form provides an exhibit of the total volume of freight traffic and of freight car efficiency, and shows the average number of cars on the road daily (separated between serviceable and unserviceable), the net ton-miles, the train-miles, and the car-miles. It includes the statistics of mixed trains as well as those of freight trains. (Form 1 is confined exclusively to freight trains.) The averages follow:

Net ton-miles per mile of road per day
Net ton-miles per train-mile
Per cent of cars on line to cars owned
Per cent of cars in or awaiting shop to total on line
Net tons per loaded car-mile
Per cent of loaded car-miles to total car-miles
Car-miles per car-day
Net ton-miles per car-day

Forms 1 to 5, inclusive, relate entirely to what is termed physical performance. The dollar mark does not appear on any of the five forms. Con-

sequently they are independent of the expenditure accounts. The distinction is important from the viewpoint of early availability. The accounts relating to expenditures ordinarily are not closed until the 20th to the 24th of the month following that to which the figures apply, and the complete income account ordinarily is not available until the 25th. The physical performance statistics, however, are based in greater part on the conductors' train reports. Those which do not come from the train reports are taken from other records of the operating department which are available a few days after the close of the month. Consequently it is possible to complete the reports of physical performance fifteen days after the close of the month, and the statistics are available at least ten days before those which relate to cost. It is highly important that the figure shall be in the hands of the supervising officers at the earliest possible date.

The underlying theory of the five forms is that the operating department is charged with a given number of locomotive-days and car-days, and is credited with its production in ton-miles or passenger car-miles. The production in ton-miles and passenger car-miles, in turn, is related to the operating department's expenditure in train-miles, locomotive-miles, and car-miles, and the supplementary statistics throw light on the components of the train-load and the car-load, as well as upon the effect of changes in the nature of the commodities handled, in the balance of traffic, in the proportion of fast and way-freights, and in other physical, traffic and operating features. The

desiderata are that each locomotive and car should be employed to its capacity, and should produce the maximum of ton-miles with the minimum of train-, locomotive- and car-miles. The statistics show clearly the relation between the ton-mile production and the utilization of equipment, and the relation between the actual and potential train production. The physical performance statistics are compared at a later date with the cost statistics provided by Forms 6 and 7. These two forms are due to be completed on the 30th day of the month following that to which the figures apply.

Form 6, Locomotive and Train Costs. This report deals with the direct or "out-of-pocket" costs —those which are directly related to train-, locomotive- and car-performance. They require a separation of these primary expense accounts according to the Interstate Commerce Commission's "Rules Governing the Separation of Operating Expenses between Freight Service and Passenger Service."

The basic data are reported separately for freight service and passenger service and separately for:

Locomotive repairs
Enginehouse expenses
Enginemen
Trainmen
Locomotive fuel
Other locomotive supplies
Train supplies and expenses

For the freight service the unit costs are expressed in:

Cost per locomotive-mile
Cost per train-mile
Cost per 1000 gross ton-miles

For the passenger service, they are shown as:

Cost per locomotive-mile
Cost per train-mile
Cost per passenger train car-mile

Form 7, Condensed Income Account and Operating Expenses by Primary Accounts. This form is a copy of the condensed income account and the primary expense accounts of the Interstate Commerce Commission, with certain rearrangement and grouping to provide sub-totals of the primary expense accounts which adapt themselves to operating statistical requirements. A summary is provided to show the operating ratio divided between the seven general accounts of the Interstate Commerce Commission classification.

Form 8, Freight and Passenger Revenue Statistics. This report (which is due on the 10th day of the second month following that to which the figures apply) requires in monthly form most of the revenue statistics called for annually by the Interstate Commerce Commission. From the basic information the following units are derived and are used as supplementary data in the analysis of operating results:

Miles per ton, revenue freight (average haul)
Revenue per ton, revenue freight
Revenue per ton-mile, revenue freight
Revenue per freight train-mile
Revenue per loaded freight car-mile
Miles per passenger (average journey)
Passengers per train-mile
Passengers per passenger-carrying car-mile
Passenger revenue per passenger
Passenger revenue per passenger-mile
Total revenue per passenger train-mile
Passenger revenue per passenger-carrying car-mile

Some Distinctive Features of the New Plan

The foregoing will give a general idea of the scope of the plan. Attention will now be directed to some of its distinctive features. The principal innovations appear in the statistics of freight train operation, as that field contains the largest possibilities of statistical control and had the greatest need of harmonizing divergencies in statistical practise.

Gross Ton-Miles

At the outset it was decided that gross ton-miles are absolutely essential. They represent the product of the gross weight (tons of 2000 lbs.) of the train behind the tender, and the miles moved. Gross ton-miles are the superintendent's transportation product, against which his costs may be measured. All of the gross load is not paying freight. The paying freight is represented by the

net ton-miles. Any complete statistical plan requires both sets of figures.

The compilation of gross ton-miles had been common west of the Mississippi River for many years, and to a smaller extent this was true also of certain important roads in the South. Such statistics, however, were not common in the East, although the tendency was toward recognizing their value.

Rating Ton-Miles

The compilation of rating ton-miles was confined to a very few railroads. Rating ton-miles are the potential ton-miles which would have been produced had all trains been loaded to 100 per cent of the slow freight rating for normal summer weather, taking account of changes in the locomotive ratings over sections of the train-run. It is customary to determine, and to publish as the tonnage rating of each class of each locomotive, what each class of locomotive is capable of hauling over each run or each section of a run when there are differences in the gradients to be overcome. It was decided that this information is vital to a scientific analysis of train loading efficiency, as the ratio of the actual gross ton-miles to the potential gross ton-miles gives the percentage of train loading efficiency. The general manager of a railroad may fairly hold his superintendents responsible for a satisfactory ratio of actual to potential, the performance in every case to be interpreted in the light of other related statistics, such as the train speed and the ratio

of net ton-miles to gross ton-miles. In the very nature of things the superintendent can seldom make a perfect performance of 100%. His traffic will not be evenly balanced by directions, he must run some fast-freights and way-freights with less than the full tonnage required by the slow freight tonnage rating, and the weather conditions are not always ideal.

Net Ton-Miles from the Train Reports

The net ton-miles are the product of the tons of freight in the train and the miles they are moved. The net ton-miles represent the paying part of the gross load. From the viewpoint of management the net load is more important than the gross load, as the revenues follow the net tons although the expenses follow the gross tons. It is important, then, to know the ratio of net ton-miles to gross ton-miles. That ratio is influenced by the car-load, which, in turn, is influenced by the fluctuations in the relative proportions of low-grade freight and high-grade freight. The former moves in bulk in full car-loads; the latter moves in relatively light car-loads. The ratio of net ton-miles to gross ton-miles is influenced also by the fluctuations in the empty car movement.

The net ton-miles reported on Forms 1 and 5 are computed from the conductors' train reports which among other things show the car numbers and initials, the weight of contents, the gross weight, and the points between which moved. Except in a very few isolated cases (where the value of the statistics had been recognized) net

ton-miles were not available until the latter part of the second month, that is to say, the net ton-miles for January would not be complete until March 15 to March 25. The information was taken from the waybills, the source of freight revenue statistics, and the delay in the settlement of interline waybills prevented an earlier closing of the revenue accounts. As a consequence the net ton-miles were received so late that they did not provide a satisfactory basis for the computation of train loading and car loading statistics.

Another objection applied to waybill ton-miles as a measure of train- and car-performance. Ton-miles computed from the waybills rarely corresponded with the tons actually moved during the period for which the train-miles were reported, because of the delay in taking the interline waybills into account. There was always a "lap-over" of interline waybill ton-miles omitted from the preceding period, and a shortage of interline waybill ton-miles produced in the current period but not taken into account until the next period. In theory the "lap-over" should have balanced the shortage, but in actual practise the discrepancy was often so great as to invalidate waybill tonnage as a measure of train performance for any particular month.

It was decided, therefore, to require that the net ton-miles, like the gross ton-miles, the train-miles, the locomotive-miles, the car-miles and the train-hours, should be computed from the train reports. All of the basic data, then, would come from the same source. This insures the comparability of all these related data, and definitely

allocates the transportation product to the particular period under review. Steps were taken later to utilize the train report ton-miles for revenue accounting and statistical purposes, and to discontinue the computation of waybill ton-miles except in certain states which require a separation of ton-miles between interstate and intrastate.

It may occur to the minds of those who are interested in ton-mile statistics purely from the viewpoint of revenue and public service that the substitution of the statistics from the train reports may be less accurate than those from the waybills, and that the use of train report ton-miles as a divisor into freight revenue may affect the integrity of the important unit "Revenue per ton-mile." There is, however, no cause for apprehension on that score, as experience has shown that differences in the two sets of statistics are so small as to be negligible. A comparison of the net ton-miles from the waybills (before that basis was discontinued) with those taken from the train reports, shows that for all railroads for five months the variation was but 0.8%. In this test the effect of the "lap-over" items is nullified because they are spread over a period of five months. The variation would be greater in the comparison of a single month.

The Time Element in Operating Statistics

The importance of the time element in operating statistics had not generally been recognized. The majority of railroad men and financiers, are accustomed to think in terms of train-load, i.e.,

ton-miles per train-mile. Relatively few have been accustomed to think in terms of ton-miles per train-hour. The latter, however, is the better index to efficiency. The train-load, by itself, takes no account of speed. Ton-miles per train-hour are the resultant of load and speed. It is analogous to the horsepower unit. It combines in itself the net effect of the operating policy between the two extremes of loading the locomotive to every ton it can drag at low speed over the ruling grade, and of sacrificing tonnage in order to make the trip quickly. There is always a critical point between the two extremes which under normal conditions will produce the maximum of ton-miles per train-hour at the minimum cost per ton-mile.

To illustrate: assume that on a given run there are sections of 1% grade over which a given type of locomotive can haul 1,500 gross tons (tons of car and lading combined) at a speed of 6 miles per hour on these maximum grades. The speed on other sections, of course, will be greater, but we will assume that, with a normal allowance for road delays, the run of 100 miles may be made in 10 hours. At that speed the production would be 15,000 gross ton-miles per train-hour (train-load of 1,500 gross tons times train-speed of 10 miles per hour). As the train- and engine-crews are on an 8-hour day basis, they would be paid overtime for 2 hours. (It is unnecessary here to go into the technicalities of the wage schedules which provide that mileage rates apply unless the miles per hour in freight service are less than 12.5, in which case hourly rates, based on 12.5 miles per hour, apply.) In this case it may be

found that a reduction in the tonnage rating to 1,350 tons would permit an increase in the speed and reduce the trip hours to 8, or an average speed of 12.5 miles per hour. This combination of train-load and train-speed will produce 16,875 gross ton-miles per train-hour. The ton-mile production *per train-hour* is thereby increased from 15,000 to 16,875, and the cost per ton-mile is decreased because of the elimination of overtime. In this assumed case it is plain that the 1,500 ton rating is uneconomical. In the great majority of cases it may not be clear whether there would be any real economy in decreasing the load to increase the speed. These principles are ordinarily considered when the tonnage ratings are established, and it is the intention that they shall be set at a maximum which will not prevent the trains from moving at economical speed.

In order to provide for the time element in operating statistics, the compilation of freight train-hours was required. Form 1 shows these basic data as well as gross ton-miles and net ton-miles per train-hour. It is possible, therefore, to trace the relationship between increases or decreases in the train-load and increases or decreases in the train-speed, and to note the combined effect in ton-miles per train-hour. The fluctuations in ton-miles per train-hour may, in turn, be compared with fluctuations in the cost per gross ton-mile, reported on Form 6.

The time element has recognition also in Form 5, which shows as the final and inclusive unit of freight car efficiency, "Net ton-miles per car-day." This unit is the resultant of three factors:

1. Average ton-miles per loaded car-mile
2. Per cent of loaded car-miles to total car-miles
3. Average car-miles per car-day.

If, for example, the car-load is 30 net tons, the per cent of loaded to total car-miles is 70%, and the car-miles per car-day are 30, the net ton-miles per car-day are 630 (car-load—30 tons—multiplied by per cent of loaded cars—.70—multiplied by car-miles per car-day—30). An improvement in any one factor favorably influences the inclusive unit; a loss in any one factor adversely affects it. If a campaign of intensive car loading brings about an increase of 10% in the car-load, to 33 net tons, but also causes a slowing up in car movement of 10%, to 27 miles per day, the road is no better off. In fact there is a slight loss, as the ton-miles per car-day will be 624 instead of 630. If, further, the heavier car loading increases the empty car movement, and thereby decreases the per cent of loaded car-miles to total car-miles, say to 67% instead of 70%, the inclusive unit—ton-miles per car-day—will suffer a further loss—597 instead of 630. The interrelation of these factors is often overlooked. From the single viewpoint of car performance there is no advantage in improving one factor if it is done at the expense of either or both of the other two factors.

It should be noted, however, that one factor in this composite unit is practically constant from the viewpoint of the roads as a whole. The total number of freight cars varies but slightly from month to month. It is affected only by additions

through the purchase of new cars, by the retirement of old cars, and by the fluctuations in the daily number of cars belonging to private car lines and Canadian roads. These changes are relatively slight in their effect on the total, so that it may be said that the net ton-miles per car-day for the roads as a whole will fluctuate almost directly with increases or decreases in the volume of freight traffic. This is not so true of individual roads which have some control over the cars on their lines. In periods of thin traffic, each road endeavors to reduce its number of cars belonging to other roads. This has a tendency to shift the balance of surplus cars as between railroads and regions, but, of course, has no effect on the grand total.

In one other notable particular, the new plan recognizes the prime importance of the time element, that is in locomotive utilization. Heretofore, there were no complete data to show the distribution of the hours in the locomotive day. Form 4 contains the most radical elaboration of orthodox statistical practise, as it provides for the division of serviceable locomotive time between that spent in productive road service, that spent at terminals "standing by" both before and after the road run, and that spent in the enginehouse between trips. The latter item is subdivided further to show how much of the time the locomotive is undergoing repairs or receiving other attention at the hands of the mechanical department forces, and how much of the time it remains idle in the enginehouse awaiting call from the transportation department.

An examination of the details of the hours of serviceable locomotives is facilitated by the requirement that the hours under each subdivision on the report shall be expressed also in percentages of total serviceable locomotive hours. Thus it is easy to compare the percentage of time on the road, at terminals and in enginehouses. When traffic is heavy it is desirable, of course, to show a high percentage of time in productive road service, and to take steps to control the unproductive hours at terminals and in enginehouses. When traffic is subnormal, it is inevitable that the time in the enginehouse (or as stored locomotives) will increase, but there is the same necessity for watching terminal time, as the crews are paid for the hours "standing by" at the same rate as on the road. The percentages, of course, show wide variations as between roads, reflecting differences in traffic conditions, in physical facilities, and in the policy of locomotive assignment—whether to single crews, double crews, multiple crews or to pooled crews. It is not safe to draw general conclusions from the figures alone without first hand information as to local conditions.

No attempt has been made by the Railroad Administration thus far to use the statistics for road-by-road comparisons. The figures, as reported, are summarized and published, but as comparisons with the preceding year will not be possible until the October, 1919, reports are received, the full value of the report for comparative purposes will not be apparent until the full year has elapsed. But even without the last year comparison the figures for the first year have

been of value, as they give a clear picture which localizes the extent of the non-use of power. There is force to the assertion that under existing conditions, with a surplus of locomotives, the value of the data is not as great as when there is a shortage of power. The continuation of the record, however, provides a bench-mark for comparisons of future performance, and will have an educative value as all concerned learn to appreciate the full significance of the figures. The low percentage of time on the road will surprise many who have little conception of what it really is. The high percentage of time at terminals (in certain instances) will throw light on overtime payments. The data should be of importance to supervisory or executive officers in passing upon recommendations for the purchase or transfer of power, or as to the necessity for improvements at terminals and enginehouses.

The requirements of Form 4 brought some protests from roads which had no statistics of distribution of locomotive-hours, and which consequently were put to some additional expense in compiling the figures. The answer of the Railroad Administration was that while it recognized the difficulties which lie in increasing the percentage of hours on the road in productive service, yet it maintained that effective remedial measures may not be applied without a complete knowledge of the facts, not from casual observation or off-hand statements, but from a current and comprehensive record.

It is pertinent at this point to refer to one feature which is subject to misunderstanding, and concerning which the United States Railroad Administration has been criticized. Prior to federal control, the Railroads' War Board inaugurated a monthly *Summary of Freight Operation* which among other statistics, showed what was termed, "Per cent of freight locomotives in shop or awaiting shop." No clear definition was given, but it was generally understood by the reporting carriers to apply only to the locomotives held out of service for general or classified repairs, which are made in the general shops, and was not meant to embrace locomotives held out of service for running repairs or other light repairs which in most cases are made in the enginehouses, although often made in the general shops.

Under federal operation the monthly summary above referred to was continued without change in basis until October, 1918, when the standardized statistics became fully effective. Under the new plan, the policy is to hold the operating department to a high standard in locomotive utilization, and the dividing line between serviceable and unserviceable locomotives was set at those which are held 24 hours or more for repairs of any kind, whether running repairs or classified repairs. The record is kept on an hourly basis, and the average number of unserviceable locomotives per month is obtained by dividing the monthly aggregate hours of locomotives held 24 hours or more for repairs, by the total hours in the month. This change in method naturally brought about an apparently large increase in

the percentage of unserviceable locomotives. The percentage (in freight service) on the last report on the old basis (September, 1918) was 14.8%. On the first report on the new basis (October, 1918) it is shown as 25.1%. Actually there was practically no difference in the condition of the locomotives in the two consecutive months. The difference is due entirely to the change in basis which was made under war conditions with a view to showing conditions in their worst light so that all concerned might be impressed with their responsibility for keeping locomotives employed to their maximum productive capacity. The use of the word "unserviceable" is somewhat strained, as it is not fairly accurate (although technically correct) to say that a locomotive which is held 24 hours for an hour's repairs, is "unserviceable." Yet the line had to be drawn definitely, and it was set at 24 hours' delay for repairs of any kind.

As already stated the Administration has been criticized because its reports for July, 1919, show 27.2% of freight locomotives unserviceable, while the July, 1918, report on the Railroads' War Board basis shows the percentage as 14.1%. Practically all of the difference is due to the change in basis. The current summaries now bear the footnote:

> The factor of "unserviceable locomotives" here used is a factor designed to be correlated with performance in transportation and is not designed to reflect and does not reflect the physical condition of the equipment. The factor reflects not merely the need for repairs but also the extent of delay in obtaining the repairs; and does this not merely with respect to classified repairs, the

need for which implies actual disability in the equipment, but also with respect to running repairs for which locomotives are held 24 hours or more. To ascertain the physical condition of the equipment reference should be made to the locomotives in shop or awaiting shop for classified repairs.

Separation of Freight Train Statistics by Directions

On Form 1 all of the basic information and all of the averages or ratios are shown separately by directions—east, west and total. Where the movement of traffic as a whole is not east and west, it may be shown as north and south, or branches which run north or south may be combined with east or west according to traffic movement. The requirement of separation by direction is designed to throw light on the effect of unbalanced traffic, and to permit a separate analysis of the performance in each direction. Such an analysis is essential to an accurate determination of the effect of fluctuations by directions.

Freight traffic usually is unbalanced. There is usually what is called the "direction of prevailing traffic," although with seasonal or other traffic fluctuations it may alternate between east and west. Ordinarily it is unnecessary to pay much attention to train loading in the light direction, as the locomotives and crews in the direction of heavy traffic must be returned in the light direction with little regard to train loading. It may be, however, that the grades are easy in the direction of traffic and are heavy in the opposite direction. In that case it is probable that the train loading in the direction of light traffic re-

quires the greatest supervision. In one specific case the westward gross tons normally are from 55% to 65% of the eastward gross tons, but the heaviest grades are against the westward movement. For a given type of locomotive the eastward rating is 2,000 gross tons; westward it is 1,200 tons, or 60% of the eastward rating. It is plain, then, that in this case the eastward direction is controlling so long as the westward gross tons are not more than 60% of the eastward gross tons. When it exceeds 60%, it is the westward movement which controls the number of locomotives and crews.

This instance will illustrate the importance of the required separation in the statistics of traffic, of train-, locomotive-, and car-mileage, and of train-hours. Heretofore, its importance has been recognized in the statistical practise of but very few railroads.

Actual Figures from One Report

Space will not permit the reproduction of all of the forms and summaries. A single example will suffice to show the design of one form, and to illustrate the completeness of the data pertaining to freight train operation. The report herein reproduced contains the actual figures of one railroad on Form 1 for the month of May, 1919, compared with May, 1918. In this case the road had unusually complete statistics for 1918, and was able to adapt its records to fit the comparative requirements of the new report.

In analyzing this report we note first that the gross ton-miles show a decrease of 20.4%. This change in the actual gross production should be compared with the potential. The rating ton-miles show a decrease of 21.5%. This comparison indicates an improvement in loading to the locomotive rating. A glance at Item 14 shows an increase of 1.4% in the per cent of actual to potential. We note further, however, that the improvement occurred wholly in westward movement. The eastward performance shows a decrease in loading efficiency. The details by directions, under Items 5 and 6, show that the traffic is unbalanced, the prevailing direction being eastward. The percentages of decrease show that the loss in traffic both in gross and net (particularly in net) was relatively greater eastward than westward.

The next step is to compare the gross ton-miles with the train-miles. The percentages of change are 20.4% decrease in gross ton-miles and 29.0% decrease in train-miles. These figures indicate an improvement in the train-load. The results are shown in Item 9. The eastward gross train-load shows an increase of 6.3%, the westward load an increase of 23.8%, and in both directions combined, the increase is 12.2%.

Attention should now be directed to the relation between locomotive-miles and train-miles. The train-miles show a decrease of 29.0%. The decrease in principal and helper locomotive-miles is 30.7%. We note in passing that there has been a substantial saving in light locomotive-miles—locomotives run without trains. The relation be-

tween the train-miles and locomotive-miles is seen in Item 9, which shows a decrease of 2.3% in the locomotive-miles per train-mile. It is evident, therefore, that the increase in the train-load was not due to the greater use of multiple locomotives.

It might be of interest in this case to ascertain why the locomotive-miles decreased relatively more than the rating ton-miles. A simple computation (Item 6-c divided by Item 3-c) shows that the average rating per locomotive in 1919 was 1,519 as against 1,341 in 1918. This difference indicates one or more of six things: (1) the acquisition of new locomotives of greater power; (2) the relatively greater use of heavier power and relatively smaller use of lighter power, the latter being stored; (3) the application of superheaters to locomotives not heretofore so equipped; (4) an upward revision of tonnage ratings; (5) relatively more traffic on the divisions which have the heavier tonnage ratings; or (6) grade revisions which permit of heavier train loading. In this particular case the increase in the average rating is due to a combination of four out of six reasons just suggested.

One reason for the better westward performance is seen in the car-miles. They show a heavy decrease in loads eastward, but westward we find an increase of 7.5%. It is of interest here to glance at the average car-load, Item 11. It shows a loss of 12.2%, with but little difference in the change as between directions. The difference between directions is greater, however, in the per cent of loaded to total car-miles. Eastward the proportion of loads decreased slightly while in

UNITED STATES RAILROAD ADMINISTRATION

DIRECTOR GENERAL OF RAILROADS

A. B. & C. RAILROAD

(Name of reporting carrier)

FREIGHT TRAIN PERFORMANCE

(Not including mixed, special, or motor car trains)

Month of MAY, 1919, compared with same month of previous year.

ITEM	MONTH OF MAY		INCREASE OR DECREASE	
	THIS YEAR	LAST YEAR	AMOUNT	PER CENT
1, (*a*) Average miles of road operated ....(*Note A*)	8,563.2	8,561.2	2.0	.1
(*b*) Average miles other main tracks operated......(*Note A*)	25.8	25.8		
2. Train-miles (*Note B*):				
(*a*) East	181,796	261,469	d 79,673	d 30.5
(*b*) West	177,465	244,537	d 67,072	d 27.4
(*c*) Total	359,261	506,006	d 146,745	d 29.0
3. Locomotive-miles (*Note B*):				
(*a*) Principal and helper, east......	190,174	280,199	d 90,025	d 32.1
(*b*) Principal and helper, west	184,121	259,802	d 75,681	d 29.1
(*c*) Total principal and helper, east and west	374,295	540,001	d 165,706	d 30.7
(*d*) Light, east	2,195	3,057	d 862	d 28.2
(*e*) Light, west	6,431	16,349	d 9,918	d 60.7
(*f*) Total light, east and west........	8,626	19,406	d 10,780	d 55.5
(*g*) Grand total, east and west....	382,921	559,407	d 176,486	d 31.5
4. Car-miles (*thousands*) (*Note B*):				
(*a*) Loaded, east	6,030	7,836	d 1,806	d 23.0
(*b*) Loaded, west	3,058	2,845	213	7.5
(*c*) Loaded, total	9,088	10,681	d 1,593	d 14.9
(*d*) Empty, east	704	856	d 152	d 17.8
(*e*) Empty, west	3,237	4,144	d 907	d 21.9
(*f*) Empty, total	3,941	5,000	d 1,059	d 21.2
(*g*) Caboose, east	186	281	d 95	d 33.8
(*h*) Caboose, west	183	263	d 80	d 30.4
(*i*) Caboose, total	369	544	d 175	d 32.2
(*j*) Total, east	6,920	8,973	d 2,053	d 22.9
(*k*) Total, west	6,478	7,252	d 774	d 10.7
(*l*) Grand total	13,398	16,225	d 2,827	d 17.4
5. Gross ton-miles (*thousands*) (*Note C*):				
(*a*) East	267,713	362,186	d 94,473	d 26.1
(*b*) West	182,302	202,915	d 20,613	d 10.2
(*c*) Total	450,015	565,101	d 115,086	d 20.4

ITEM	MONTH OF MAY		INCREASE OR DECREASE	
	THIS YEAR	LAST YEAR	AMOUNT	PER CENT
6. Rating ton-miles (*thousands*) (*Note D*):				
(*a*) East	299,506	399,123	d 99,617	d 25.0
(*b*) West	268,963	324,897	d 55,934	d 17.2
(*c*) Total	568,469	724,020	d 155,551	d 21.5
7. Net ton-miles (*thousands*) (*Note E*):				
(*a*) East	128,001	184,919	d 56,918	d 30.8
(*b*) West	55,322	60,429	d 5,107	d 8.5
(*c*) Total	183,323	245,348	d 62,025	d 25.3
8. Train-hours (*Note F*):				
(*a*) East	16,029	22,970	d 6,941	d 30.2
(*b*) West	16,126	20,385	d 4,259	d 20.9
(*c*) Total	32,155	43,355	d 11,200	d 25.8

UNITED STATES RAILROAD ADMINISTRATION

DIRECTOR GENERAL OF RAILROADS

A. B. & C. RAILROAD

(Name of reporting carrier)

FREIGHT TRAIN PERFORMANCE

(Not including mixed, special, or motor car trains)

Month of MAY, 1919, compared with same month of previous year.

AVERAGES				
9. Per freight train mile:				
(*a*) Locomotive miles, east (*excl. light.*)....($3a \div 2a$)	1.046	1.072	d .026	d 2.4
(*b*) Locomotive miles, west (*excl. light*)....($3b \div 2b$)	1.038	1.062	d .024	d 2.3
(*c*) Locomotive miles, total (*excl. light*)....($3c \div 2c$)	1.042	1.067	d .025	d 2.3
(*d*) Loaded car miles, east ....($4a \div 2a$)	33.2	30.0	3.2	10.7
(*e*) Loaded car miles, west ....($4b \div 2b$)	17.2	11.6	5.6	48.3
(*f*) Loaded car miles, total ....($4c \div 2c$)	25.3	21.1	4.2	19.9

(*g*) Empty and caboose car miles, east (*4d*+*4g*)÷*2a*	4.9	4.3	8.8	11.1
(*h*) Empty and caboose car miles, west (*4e*+*4h*)÷*2b*	19.3	18.0	6.8	22.9
(*i*) Empty and caboose car miles, total (*4f*+*4i*)÷*2c*	12.0	11.0	5.2	16.2
(*j*) Total car miles, east ....(*4j*÷*2a*)	38.1	34.8	87.4	6.8
(*k*) Total car miles, west ....(*4k*÷*2b*)	36.5	29.7	197.5	28.8
(*l*) Total car miles, total ....(*4l*÷*2c*)	37.3	32.1	135.8	12.2
(*m*) Gross ton miles, east ....(*5a*÷*2a*)	1,472.6	1,385.2	121.0	7.9
(*n*) Gross ton miles, west ....(*5b*÷*2b*)	1,027.8	829.8	187.0	14.1
(*o*) Gross ton miles, total ....(*5c*÷*2c*)	1,252.6	1,116.8	151.4	10.6
(*p*) Rating ton miles, east ....(*6a*÷*2a*)	1,647.5	1,526.5	d 3.1	d .4
(*q*) Rating ton miles, west ....(*6b*÷*2b*)	1,515.6	1,328.6	64.6	26.1
(*r*) Rating ton miles, total ....(*6c*÷*2c*)	1,582.3	1,430.9	25.4	5.2
			.6	14.0
(*s*) Net ton miles, east ....(*7a*÷*2a*)	704.1	707.2	1.3	7.2
(*t*) Net ton miles, west ....(*7b*÷*2b*)	311.7	247.1	1.0	9.1
(*u*) Net ton miles, total ....(*7c*÷*2c*)	510.3	484.9		
10. Per freight train hour:				
(*a*) Train miles, east (*speed in miles per hour*)......... ....(*2a*÷*8a*)	11.3	11.4	d .1	d .9
(*b*) Train miles, west (*speed in miles per hour*)......... ....(*2b*÷*8b*)	11.0	12.0	d 1.0	d 8.3
(*c*) Train miles, total (*speed in miles per hour*)......... ....(*2c*÷*8c*)	11.2	11.7	d .5	d 4.3
(*d*) Gross ton miles, east ....(*5a*÷*8a*)	16,701.8	15,767.8	934.0	5.9
(*e*) Gross ton miles, west ....(*5b*÷*8b*)	11,304.8	9,954.1	1,350.7	13.6
(*f*) Gross ton miles, total ....(*5c*÷*8c*)	13,995.2	13,034.3	960.9	7.4
(*g*) Net ton miles, east ....(*7a*÷*8a*)	7,985.6	8,050.5	d 64.9	d .8
(*h*) Net ton miles, west ....(*7b*÷*8b*)	3,430.6	2,964.4	466.2	15.7
(*i*) Net ton miles, total ....(*7c*÷*8c*)	5,701.2	5,659.0	42.2	.7

ITEM	MONTH OF MAY		INCREASE OR DECREASE	
	THIS YEAR	LAST YEAR	AMOUNT	PER CENT
11. Net ton miles per loaded car mile				
(*a*) East..........(*7a÷4a*)	21.2	23.6	d 2.4	d 10.2
(*b*) West..........(*7b÷4b*)	18.1	21.2	d 3.1	d 14.6
(*c*) Total..........(*7c÷4c*)	20.2	23.0	d 2.8	d 12.2
12. Per cent loaded to total car miles (*excl. caboose*):				
(*a*) East..........*4a÷(4a+4d)*	89.5	90.2	d .7	d .8
(*b*) West..........*4b÷(4b+4e)*	48.6	40.7	7.9	19.4
(*c*) Total..........*4c÷(4c+4f)*	69.8	68.1	1.7	2.5
13. Per cent net ton miles to gross ton miles:				
(*a*) East..........(*7a÷5a*)	47.8	51.1	d 3.3	d 6.5
(*b*) West..........(*7b÷5b*)	30.3	29.8	.5	1.7
(*c*) Total..........(*7c÷5c*)	40.7	43.4	d 2.7	d 6.2
14. Per cent gross ton miles to rating ton miles:				
(*a*) East..........(*5a÷6a*)	89.4	90.7	d 1.3	d 1.4
(*b*) West..........(*5b÷6b*)	67.8	62.5	5.3	8.5
(*c*) Total..........(*5c÷6c*)	79.2	78.1	1.1	1.4

NOTES

(A) Miles of road—miles of first running track. Miles other main tracks—miles of second, third, fourth, or other multiple running tracks, not including yard tracks and sidings.

(B) Follow "Classification of train miles, locomotive miles, and car miles," Interstate Commerce Commission, July 1, 1914. Include electric locomotive trains, but exclude mixed, special, and motor car trains. Train miles—Account 801, both ordinary and light; locomotive miles—Account 811; car-miles—Account 821. Where movement of traffic as a whole is not east and west, substitute north for east and south for west, or combine north and south with east and west according to traffic movement.

(C) Gross ton-miles—tons of 2,000 lbs. behind locomotive tender (cars, contents, and caboose) moved one mile; to be computed from conductors' train reports. Include electric locomotive trains, but exclude mixed, special, and motor car trains.

(D) Rating ton-miles—the potential gross ton-miles which would have been produced had all trains been loaded to 100% of the slow freight rating for normal weather conditions, taking account of changes in rating over sections of the run. When the potential train load in the direction of favoring grades is now expressed in number of cars an arbitrary tonnage rating should be used as the basis for Item 6.

(E) Net ton miles—tons of revenue and nonrevenue freight moved one mile; to be computed from the conductors' train reports.

(F) Train hours—the elapsed time of trains between the time of leaving initial terminals and time of arrival at final terminals, including delays on the road. May be taken from conductors' train reports or dispatchers' train sheets.

the westward direction there is an increase of 19.4%. Both the car-load and the percentage of loaded cars have a material effect on the car-load, as it is possible to handle a greater gross train-tonnage, in heavily loaded cars with few empty cars, than in lightly loaded cars with a large proportion of empties. The unit resistance (per ton) of an empty car is approximately twice as great as that of a car loaded to its weight capacity. A locomotive on a given run may be able to haul 3,000 gross tons in fully loaded coal cars, yet be unable to haul more than 2,400 gross tons of empty or very lightly loaded cars.

Attention may next be directed to the net ton-mile so as to see the relation between the paying load and the gross load of the train. It is noted that the net ton-miles show a decrease of 25.3%, the loss being much greater eastward. As the loss in gross ton-miles is 20.4%, it is plain that the net ton-miles this year bear a lower percentage to gross. The details are shown in Item 13. The loss was altogether in eastward movement. Its per cent of net to gross is 6.5% less than last year, while the westward movement shows an increase of 1.7%, the combined unit showing a loss of 6.2%.

Now, we may examine the effect of the time element. Train-hours show a decrease of 25.8%, while train-miles show a decrease of 29.0%. This indicates a loss in train-speed. Item 10 shows the extent of the loss—4.3% decrease in miles per hour. The decrease is greater in the westward direction.

The combined effect of changes in gross train-load and speed is shown in the gross ton-miles per train-hour. In this case there is a gain in one factor and a loss in the other factor. The gross train-load shows an increase of 12.2%; the train speed shows a decrease of 4.3%. The gain in the load was sufficient to offset the loss in the speed, consequently we find an increase of 7.4% in gross ton-miles per train-hour.

Finally, we may turn to the unit which is the net result of those already discussed—the net ton-miles per train-hour. The figures show a slight improvement—an increase of 0.7%. The eastward performance shows a loss of 0.8%, but the westward performance reflects a gain of 15.7%. The relatively small gain in net ton-miles per train-hour, compared with gross ton-miles per train-hour, is due to the lower ratio of total net ton-miles to total gross ton-miles. And, as already stated, this is due to a smaller car-load, although the loss in that factor is lessened by a relatively smaller gain in the per cent of loaded to total car-miles.

The foregoing comments are intended merely to be suggestive. No two persons will follow the same order in undertaking an analysis of the figures. It is plain, however, that whether we proceed from the basic data to the final inclusive unit, or work backward from that unit, it is easy to trace the effect of the changes in each factor, and to proceed with intelligent inquiries designed to bring out the reasons for the relatively poorer performance in the one direction. The statistics on this form should, of course, be compared with

those on the reports of locomotive performance, of distribution of locomotive hours, of freight car performance, and of locomotive and train costs, as they are all interrelated.

Publication of Summaries

Reference has already been made to the fact that the policy of the United States Railroad Administration is to disseminate the statistical summaries so that the Federal Managers and other operating officials of the individual roads may have complete and current information, not only with respect to their own performance, but also with respect to the comparative statistics of all other railroads. This is accomplished by monthly summaries which show for each road and for each region the more important items compiled from the individual reports on Forms 1 to 8, inclusive. These summaries are:

Freight Train and Freight Locomotive Performance (based on Forms 1 and 3).

Passenger Train and Passenger Locomotive Performance (based on Forms 2 and 3).

Number of Locomotives and Distribution of Locomotive Hours (based on Form 4).

Freight Traffic Movement and Car Performance (based on Form 5).

Freight Locomotive and Freight Train Costs (based on Form 6).

Condensed Income Account (based on Form 7).

Passengers Carried One Mile (based on Form 8).

The data, with two exceptions, are shown both for the current and the previous year, with the

percentages of increase or decrease in the significant items. The two exceptions are the summaries of Forms 1 and 4. Complete comparison with the previous year will not be practicable until October, 1919, as the general compilation of gross ton-miles, rating ton-miles and train-hours on Form 1, and the distribution of locomotive-hours on Form 4, were not fully under way until October, 1918.

Summary

In conclusion it may be stated briefly that the United States Railroad Administration, in the narrower field of operating statistics, has brought about in unification and standardization, practically what the Interstate Commerce Commission has done in the broader field of railroad accounting. The new plan of operating statistics supplements and fits into the accounting requirements of the Interstate Commerce Commission, and requires no duplication of accounting work. The new forms which pertain to freight performance and the utilization of locomotives and freight cars, are much in advance of the previous practise, and place special emphasis on the importance of the time element in train, locomotive and car performance. Gross ton-mile and train-hour statistics are now universally available, the freight train data are now available by directions, and the new basis for compiling net ton-miles provides statistics which are properly comparable with train-, locomotive-, car- and gross ton-miles.

The figures are now available much earlier than was previously the case, and the monthly summaries, generously distributed, enable each operating official to compare his results with those of his neighbors without the former uncertainties and qualifications as to bases and methods.

The new plan has accomplished its primary purpose of providing the Director General and his staff with the basic data and the significant averages, ratios and unit costs which relate to or furnish indices of operating efficiency. It has also done much, as a secondary but equally important purpose, in inspiring an added interest in the figures among Federal Managers and their subordinates. It is realized that statistics are valuable only to the extent that they are studied and their indications acted upon, and that the greatest measure of value comes from local rather than from central use. There is gratifying evidence of a tendency locally to take more interest in the returns, and to go to a greater extent in making comparisons with other roads and regions. This greater interest on the part of those directly responsible for results must inevitably be translated into terms of increased efficiency.

Unfortunately, it is not possible to measure the effect in any definite terms, as the efficiency of operation during the period of the war and since the signing of the armistice has been so greatly influenced by other factors, such as decreased traffic, higher material costs, increased wages, shorter working hours, loss of experienced employees, and high labor turnover, as to over-

shadow the benefits inherent in the new statistical plan. It is clearly evident, however, that the higher material costs and increased wage rates make it necessary, in greater degree than ever before, that those in authority should have complete and accurate statistics as aids to intelligent management. It is plain, also, that whatever the plan of railroad management subsequent to federal control, it will be highly desirable to continue a statistical policy which will afford accurate and complete comparisons of operating efficiency.

INDEX

H

I

L

M

N

O

P

R

S